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# PROCEEDINGS

OF THE

## AMERICAN SOCIETY

OF

## CIVIL ENGINEERS

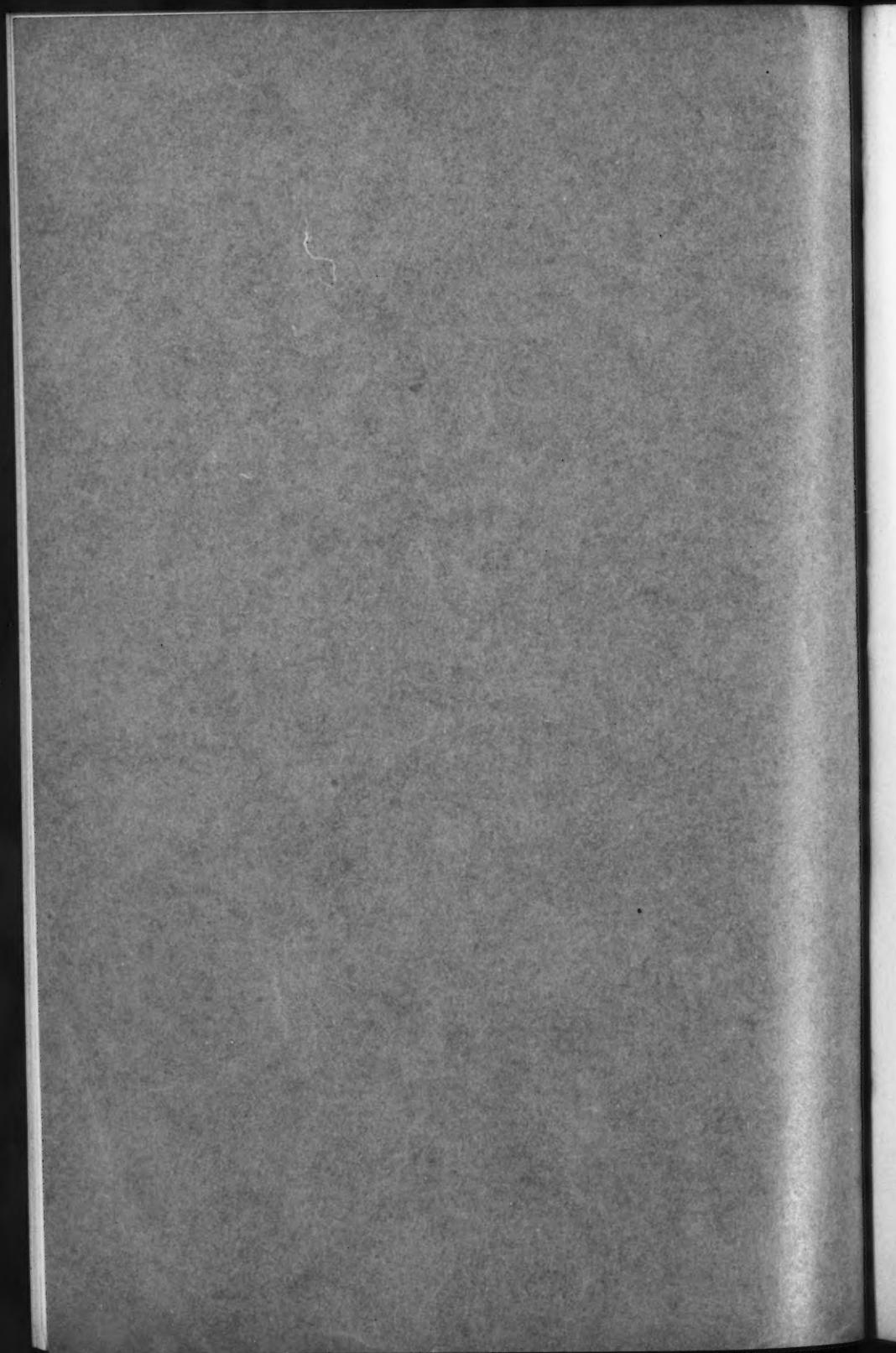
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PROCEEDINGS  
OF THE  
AMERICAN SOCIETY  
OF  
CIVIL ENGINEERS  
(INSTITUTED 1852)

VOL. XLIV—No. 6

AUGUST, 1918

Edited by the Secretary, under the direction of the Committee on Publications.

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CONTENTS

Society Affairs .....	Pages 595 to 782.
Papers and Discussions .....	Pages 757 to 926.

NEW YORK 1918

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# American Society of Civil Engineers

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GEORGE S. WEBSTER

Term expires January, 1920:

NELSON P. LEWIS  
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Treasurer, GEORGE W. TILLSON

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EDWIN DURYEA

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1921:

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GEORGE H. PEGRAM

Assistant Secretary, T. J. McMINN

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## Special Committees

ON ENGINEERING EDUCATION: Desmond FitzGerald, Onward Bates, D. W. Mead.

TO CODIFY PRESENT PRACTICE ON THE BEARING VALUE OF SOILS FOR FOUNDATIONS, ETC.: Robert A. Cummings, Edwin Duryea, E. G. Haines, Allen Hazen, James C. Meem, Walter J. Douglas.

ON THE REGULATION OF WATER RIGHTS: F. H. Newell, W. C. Hoad, John H. Lewis.

TO REPORT ON STRESSES IN RAILROAD TRACK: A. N. Talbot, A. S. Baldwin, G. H. Bremner, John Brunner, W. J. Burton, Charles S. Churchill, W. C. Cushing, Robert W. Hunt, George W. Kittredge, Paul M. LaBach, C. G. E. Larsson, G. J. Ray, Albert F. Reichmann, H. R. Safford, F. E. Turneure, J. E. Willoughby.

The Reading Room of the Society is open from 9 A. M. to 10 P. M. every day, except Sundays, Fourth of July, Thanksgiving Day, and Christmas Day.

HEADQUARTERS OF THE SOCIETY—33 WEST THIRTY-NINTH STREET, NEW YORK.

TELEPHONE NUMBER.....4600 Vanderbilt.

CABLE ADDRESS....."Ceas., New York."

\* Director William R. Hill died June 16th, 1918.

## AMERICAN SOCIETY OF CIVIL ENGINEERS

INSTITUTED 1852

### PROCEEDINGS

This Society is not responsible for any statement made or opinion expressed in its publications.

#### SOCIETY AFFAIRS

##### CONTENTS

	PAGE
Minutes of Meetings:	
Of the Society, May 15th, and June 5th, 1918.....	585
Elections and Transfers by the Board of Direction, June 18th-19th, 1918.....	599
Of the Board of Direction, June 18th-19th, 1918.....	601
Society Items of Interest.....	604
Announcements:	
Hours during which the Reading Room is open.....	618
Future Meetings.....	618
Searches in the Library.....	618
Papers and Discussions.....	619
Local Associations of Members of the American Society of Civil Engineers.....	619
Privileges of Engineering Societies Extended to Members.....	635
Accessions to the Engineering Societies Library.....	638
Roll of Honor.....	651
Membership (Additions, Changes of Address, Reinstatements, Resignations, Deaths).....	691
Recent Engineering Articles of Interest.....	741

#### MINUTES OF MEETINGS

##### OF THE SOCIETY

**May 15th, 1918.**—The meeting was called to order at 8.30 P. M.; T. Kennard Thomson, M. Am. Soc. C. E., in the chair; Chas. Warren Hunt, Secretary; and present also 54 members and 7 guests.

A paper by Vernon L. Sullivan, M. Am. Soc. C. E., entitled "Construction Methods Used in Building the Lower Reservoir Dam of the Balmorhea Project", was presented by the Secretary and discussed by Mr. T. Kennard Thomson.

The Secretary read a letter which he had received from Sumner F. Shaw, M. Am. Soc. C. E., describing the recent earthquake in Guatemala, and also a second letter, on the same subject, supplied by A. W. Buel, M. Am. Soc. C. E. Mr. Shaw's letter was accompanied by a

number of photographs from which lantern slides had been made and were shown. F. Lavis, M. Am. Soc. C. E., also exhibited a number of slides showing scenes, structures, etc., in Guatemala, and some interesting information was given by T. Howard Barnes, M. Am. Soc. C. E.

The Secretary announced the election of the following candidates on May 13th, 1918:

#### AS MEMBERS

JOHN CUMMINGS AUTEN, Wilmington, Del.  
HENRY PERCY BORDEN, Montreal, Que., Canada  
FREDERICK W. CARPENTER, Cornwall, N. Y.  
FREDERICK ROBERT WHEELER CLEVERDON, New Rochelle, N. Y.  
KARL DANIEL COWEN, Cleveland, Ohio  
FRANK COLLINS EMERSON, Worland, Wyo.  
JAMES HUGHES HEALD, Chicago, Ill.  
CHARLES EPHRAIM MCCOY, Charleston, W. Va.  
FRANK COOK MOORE, New York City.

#### AS ASSOCIATE MEMBERS

STEPHEN CARTLAND BERRY, Belle Fourche, S. Dak.  
BYRON GRAY BEST, Ironwood, Mich.  
PARKER STANLEY BOOKWALTER, Dayton, Ohio  
HOWARD CRAWFORD BOOZ, Winfield, N. Y.  
RICHARD CHEETHAM BURTON, Guatemala, Guatemala  
ROGELIO LILO CAPESTANY, San Juan, Porto Rico  
STANLEY ALBA CHAPMAN, Washington, D. C.  
GLENVILLE ARTHUR COLLINS, Seattle, Wash.  
CLARKE COPELAND COTTRELL, Carson City, Nev.  
MAURICE ALDEN COURTNEY, Tucson, Ariz.  
BERNARD LEE CRENSHAW, Toccoa, Ga.  
JOHN WILLIAM DALY, New York City  
JOSEPH HOLMES LEE DODD, Kingston, Jamaica  
THOMAS PENGELLY ELLIS, San Diego, Cal.  
ARTHUR MAXWELL FIELD, Winchester, Va.  
MARK WILLIAM FITZPATRICK, Toccoa, Ga.  
JOHN CLAIR FOWLER, Spokane, Wash.  
GEORGE ALBERT GEIB, St. Paul, Minn.  
ANSON JOHN GERNER, Provo, Utah  
THOMAS FENNER GIBSON, Washington, D. C.  
ERNEST HENRY HARDER, Newark, N. J.  
REUBEN HAYES, Washington, D. C.  
WYATT CEPHAS HEDRICK, Dallas, Tex.  
WILLIAM JAMES HOWARD, Kansas City, Mo.  
HARLAND MARION HOYT, Lewiston, Idaho

GEORGE ALFRED HUGHES, Brooklyn, N. Y.  
GEORGE PAXSON JONES, Roanoke, Va.  
LUTHER HILL KIRBY, Alexandria, La.  
HOWARD ROBERT KLEPINGER, Cleveland, Ohio  
OTTO VON KRUSE, Niagara Falls, N. Y.  
WALTER SCOTT LACHER, La Grange, Ill.  
REUBEN LAWRENCE LARSON, Peking, China  
PAUL ARTHUR LAURENCE, Minneapolis, Minn.  
VERNE VERE LONG, Oklahoma City, Okla.  
CHARLES DUBUISSON LOVELAND, Pittsburgh, Pa.  
JAMES ALEXANDER DUFF MACBETH, Vancouver, B. C., Canada  
RAYMOND THOMAS MIDDLETON, Washington, D. C.  
SAMUEL LAWRENCE MILTON, Roxbury, Mass.  
PAUL WILLARD NORTON, Wellesley Hills, Mass.  
FRANCIS CHAPMAN PACKARD, Beaumont, Tex.  
CARL GUSTAV PAULSEN, Atlanta, Ga.  
ROY ALBERT PORTERFIELD, Kansas City, Mo.  
SAMUEL SHAPIRO, New York City  
ALFRED KIMBERLY SILVERNAIL, Utica, N. Y.  
MERTON ROGERS SUMNER, Wilmington, Del.  
EDGAR ALLCHIN VAN DEUSEN, Charlotte, N. C.  
HARRY DRAPER WINSOR, Westerleigh, N. Y.  
EARL BELMONT WOODIN, Ambridge, Pa.  
EARL ALDERFER ZEISLOFT, Akron, Ohio

## AS ASSOCIATES

JAMES TEN BROECK BOWLES, Washington, D. C.

## AS JUNIORS

LESLIE STANDISH HALL, Oakland, Cal.  
CLEMENTS McMULLEN, San Antonio, Tex.  
JAMES BLAINE NEWMAN, Cambridge, Mass.  
ALFRED SALEM NILES, Jr., Cambridge, Mass.

The Secretary announced the transfer of the following candidates on May 13th, 1918:

## FROM ASSOCIATE MEMBER TO MEMBER

ALBERT AUGUST AEGERTER, St. Louis, Mo.  
STAFFORD XAVIER COMBER, Georgetown, British Guiana  
MEYER DAVIS, San Francisco, Cal.  
ROY CORDIS HARDMAN, Balboa Heights, Canal Zone, Panama  
CHARLES ADAMS HUNT, Brooklyn, N. Y.  
MARO JOHNSON, Chicago, Ill.



WESLEY EUGENE KING, St. Paul, Minn.  
ROBERT HILEMAN LEE, Cumberland, Md.  
LEONARD LUNDGREN, Am. Exp. Forces, France  
WINFRED LEON MILNER, Potosi, Bolivia  
JOHN HAYS MYERS, White Plains, N. Y.  
JOHN ROBERT NICHOLS, Cambridge, Mass.  
JOHN CLINTON PRIOR, Columbus, Ohio

FROM JUNIOR TO ASSOCIATE MEMBER

HAROLD WALLACE BAKER, Rochester, N. Y.  
RAYMOND BOOTH, New York City  
ALFRED MICHAEL DANZILLI, Pittsburgh, Pa.  
REX EDWARD EDGECOMB, Philadelphia, Pa.  
HENRY WILLIAM ENGLISH, Cape Girardeau, Mo.  
PHILIP AUGUSTUS FRANKLIN, Seattle, Wash.  
HAROLD WILEY GRISWOLD, Portsmouth, Va.  
GEORGE WILLIAM HAWLEY, Berkeley, Cal.  
RALPH WILLIAM HAZEN, Edgewater, N. J.  
PAUL SIDNEY JONES, San Francisco, Cal.  
ALBERT PREISACH LEARNED, Chickamauga Park, Ga.  
FLOYD AUGUST NAGLER, Waco, Tex.  
ELBERT HUME REIDPATH, Buffalo, N. Y.  
GEORGE HUTZE RUHLING, Flint, Mich.  
DANIEL HENRY SEAMAN, Newark, N. J.  
GEORGE WILLIAM STEPHENS, Jr., Roland Park, Md.  
SETH MARTIN TIMBERLAKE, Brooklyn, N. Y.  
ELLWOOD COGGESHALL WILDER, New Haven, Conn.

Adjourned.

**June 5th, 1918.**—The meeting was called to order at 8:30 P. M.; Vice-President Nelson P. Lewis in the chair; Chas. Warren Hunt, Secretary; and present, also, 103 members and 14 guests.

A paper by L. R. Jorgensen, M. Am. Soc. C. E., entitled "Improving Arch Action in Arch Dams", was presented by William P. Creager, M. Am. Soc. C. E., and a communication on the subject from S. H. Woodard, M. Am. Soc. C. E., was read by the Secretary.

Mr. W. H. Blood, Jr., presented a very timely and interesting address on "Hog Island, the Greatest Shipyard in the World", illustrating his remarks with lantern slides. A unanimous vote of thanks was tendered to Mr. Blood.

The Secretary announced the following deaths:

HERBERT JAMES CHAMBERS, of New York City, elected Associate Member, November 5th, 1902; Member, January 3d, 1911; died May 20th, 1918.

ALFRED BOARDMAN MAYHEW, of Dayton, Ohio, elected Associate Member, November 8th, 1909; Member, January 18th, 1916; died May 12th, 1918.

CLARENCE RUFUS NEHER, of Buffalo, N. Y., elected Member, June 4th, 1902; died May 12th, 1918.

HARRIS DANIEL BUCKWALTER, Capt., Engr. R. C., Am. Exp. Forces, of Royersford, Pa., elected Associate Member, May 31st, 1916; killed in action in France, May 12th, 1918.

JAMES GORDON GOODFELLOW, Capt., R. E., 416th Field Co., B. E. F., of Edinburgh, Scotland, elected Junior, September 3d, 1913; Associate Member, October 9th, 1917; killed in action in France, March 23d, 1918.

Adjourned.

**ELECTIONS AND TRANSFERS BY THE BOARD OF DIRECTION,  
JUNE 18th-19th, 1918.**

**ELECTED AS MEMBERS**

CHARLES BROSSMANN, Indianapolis, Ind.  
WILLIAM HARPER CHORLTON, New York City  
THOMAS HENDRICKS DAVID, Indianapolis, Ind.  
JOHN EDWARD HAYES, Denver, Colo.  
HENRY CHANDLER ROBBINS, Boston, Mass.  
ELMORE MARCELLUS ROHRBOUGH, Omaha, Nebr.  
BERNHARD ALEXANDER SMITH, Melbourne, Victoria, Australia

**ELECTED AS ASSOCIATE MEMBERS**

FRANK KARR ASHWORTH, Miami, Fla.  
CARROLL GUERNSEY BENNETT, Springfield, Ill.  
JAMES ARCHIBALD CAMPBELL, Jr., Topeka, Kans.  
JOHN CHAUNCEY CHILDS, Philadelphia, Pa.  
JOHN LYEAL CLARKE, Richmond, Va.  
JOHN THOMAS CRAVEN, St. Louis, Mo.  
LOUIS ELMER DIERKS, Oak Park, Ill.  
CLAUDE ORVILLE DIFFENDERFER, Camp Dodge, Iowa  
LOUIS REA DOUGLASS, Trinidad, Colo.  
PETER STAUB DOW, Hanover, N. H.  
ROBERT FRANCIS DURYEA, San Francisco, Cal.  
EUGENE COURTLANDT EATON, Lindsay, Cal.  
OSCAR ROELIF ELTING, Akron, Ohio  
WARD BENJAMIN ESTERLY, San Francisco, Cal.  
JOHN LAVERN FRANZEN, Medicine Hat, Alberta, Canada  
ALBERT STEVENS FRY, Memphis, Tenn.  
RALPH LEMAN GARLINGHOUSE, Briceburg, Cal.  
ALLEN STACY HADLEY, Kansas City, Mo.  
ADOLF HINRICHS, Detroit, Mich.

HERMAN DAVID HIRSCH, New York City  
ALBERT HUBER, JR., San Francisco, Cal.  
ROY HUSSELMAN, Lakewood, Ohio  
GEORGE WILEY JONES, Los Angeles, Cal.  
SAMUEL THOMAS JONES, JR., Construction, N. C.  
LUTHER LARUE, Akron, Ohio  
WALTER JOHN LEHNER, Mt. Clemens, Mich.  
CURTIS JOHN MCCOY, Wichita, Kans.  
THOMAS FRANKLIN MALOY, Landisburg, W. Va.  
THEODORE ROBERT MINI, Visalia, Cal.  
CHARLES HALVATIOUS MOTTIER, Chicago, Ill.  
CHARLES SABIN NICHOLS, Ames, Iowa  
LEWIS MAGNUS NORELIUS, Sioux Falls, S. Dak.  
ROGER WOLCOTT OLMSTED, Manteca, Cal.  
GEORGE PAASWELL, New York City  
JOHN PETERSON, Enderlin, N. Dak.  
WALTER BELLEVILLE PHILLIPS, Dayton, Ohio  
WILMER HOUSTON POTTS, Copperhill, Tenn.  
RALPH SAWYER PROCTOR, Chicago, Ill.  
DWIGHT RAYMOND REDMAN, North Yakima, Wash.  
ROGER ROCKFORD ROBERTSON, Grand Junction, Colo.  
HERBERT ARLOH ROWLAND, McPherson, Kans.  
ALEXANDER CHARLES SCHILLING, South Hill, Va.  
CARL CRIS SEEGER, Cuyamel, Honduras  
CLYDE JOHN SEYMOUR, Nanaimo, B. C., Canada  
RUSSELL ELSTNER SNOWDEN, Goldsboro, N. C.  
HAROLD TATTERSALL, Jersey City, N. J.  
TULLOCH MCCOSH TOWNSEND, Schenectady, N. Y.  
JAMES ARTHUR TRUDEAU, Newman, Cal.  
WILLIAM BAXTER VESTAL, Anaconda, Mont.  
RUSSELL DUTTON WELSH, Camp Lewis, Wash.  
WALTER HALL WHEELER, Minneapolis, Minn.  
CHARLES CLINTON YOUNG, Oakland, Cal.

## ELECTED AS ASSOCIATES

JOHN IRVING SPOONER, Jersey City, N. J.

## ELECTED AS JUNIORS

MAURICE FOSTER CHADWICK, Tulsa, Okla.  
FRANK LYMAN FULLER, Brooklyn, N. Y.  
EDGAR NATHAN GOLDSTINE, Cambridge, Mass.  
FRANK LA SALLE GRADY, Poughkeepsie, N. Y.  
HOWARD WHIPPLE GREEN, Ancon, Canal Zone, Panama  
ERIC VAIL HOWELL, Ithaca, N. Y.  
ABRAHAM HARRY OKUN, New York City

## TRANSFERRED FROM ASSOCIATE MEMBER TO MEMBER

ARTHUR ADAMS, Brooklyn, N. Y.  
GEORGE EVERETT BAKER, Whitehall, Mont.  
EUGENE HARRY BRUNTLETT, Blue Island, Ill.  
ELBERT MILAM CHANDLER, Yakima, Wash.  
THOMAS REMINGTON HOLDEN DANIELS, Indianapolis, Ind.  
CHARLES MOSS DAVIS, Fort Worth, Tex.  
CHARLES EMERSON GREGORY, Mt. Kisco, N. Y.  
HARRY LEWIS HAEHL, San Francisco, Cal.  
GILBERT GARFIELD JACOBOSKY, Camp Custer, Mich.  
EDWARD GEORGE WALKER, London, S. W., England  
WADE CLARENCE WEST, Manila, Philippine Islands

## TRANSFERRED FROM ASSOCIATE TO MEMBER

ROBERT BRECK MORAN, Los Angeles, Cal.

## TRANSFERRED FROM JUNIOR TO ASSOCIATE MEMBER

MERTON CLYDE COLLINS, Manila, Philippine Islands  
GERALD CHAPMAN FITZGERALD, Camp Fremont, Cal.  
THOMAS CAROL HIGGINS, Norfolk, Va.  
VICTOR JOHN MILKOWSKI, Am. Exp. Forces, France  
EDWARD ASHTON WARD, Newark, N. J.

## OF THE BOARD OF DIRECTION

(Abstract)

**June 18th, 1918.**—The Board met at 10 A. M.; President Talbot in the chair; Chas. Warren Hunt, Secretary; and present, also, Messrs. Alvord, Davis, Duryea, Fay, Flinn, Hawgood, Herschel, A. M. Hunt, Khuen, Noble, Pegram, Rights, Wagner, and Webster.

The following report on a plan by which officers of the Society would visit Local Associations was adopted by the Board, and the Secretary was instructed to forward a copy to each of the Local Associations:

**"JUNE 18, 1918.**

**"TO THE BOARD OF DIRECTION,**

**AMERICAN SOCIETY OF CIVIL ENGINEERS:**

"Your Committee appointed to evolve a plan by which the Director in each District or the Secretary or other officer of the Society, should visit, from time to time, the various Local Organizations, begs to report that it has considered the matter, and while believing that the closer touch between the Board and the Local Associations which is desired, can in no way be better secured than by visits at least once a year by the Director for that district or other officer of the Society, it realizes that the districts are in some cases large, and except District No. 1, have but one Director and the number of Local Associations is con-

stantly increasing, so that mandatory action or the establishment of a custom that might impose burdensome duties should be avoided, while at the same time, encouragement should be given to the making of such visits.

"Your Committee recommends the adoption of the following:

"*Resolved:* That the President and Secretary of the Society, and the Director in each District, shall arrange as far as possible with each Local Association for a visit each year either by the Director in that District, or the President, or Secretary, or other officer of the Society, and that the expenses incurred in making such visit upon the invitation of a Local Association shall be paid by the Society.

"GEO. H. PEGRAM

"SAMUEL T. WAGNER

"A. M. HUNT

"Committee."

The resignation of A. J. Himes as representative of District No. 6 on the Nominating Committee was accepted, and George H. Tinker was appointed to fill the vacancy, Mr. Tinker having received the endorsement of the Cleveland and Pittsburgh Associations of Members of the Society.

The Secretary reported on several matters in connection with leasing the Society House on Fifty-seventh Street, possible alterations, etc., and, after discussion, the whole matter was referred to the Executive Committee with power.

A Committee to Recommend the Award of Prizes for 1918 was appointed as follows: Messrs. W. C. Hoad, Peter Mogensen, and H. R. Safford.

S. H. Woodard was appointed as the additional representative of the Society on Engineering Foundation.

The Secretary reported that Professor H. W. Hayward had attended the Spring Convention of the American Society of Mechanical Engineers as the Society's representative at the public hearing on the Report of the Screw Thread Tolerance Committee of that Society, at Worcester, Mass., June 4th to 7th, 1918.

The Secretary was instructed to forward a copy of a resolution, adopted by the Detroit Section of the American Society of Mechanical Engineers with regard to a conference of Industrial Directors and heads of technical schools and colleges to arrange for special courses of instruction for women, and for publicity of the matter, to each of the Local Associations, asking them to do what they can in the matter.

At the request of Henry M. Howe, Chairman, Division of Engineering, National Research Council, that the Board appoint a member of the Committee on Engineering, Vice-President George S. Webster was appointed.

The Secretary reported that a Joint Constitutional Conference had been proposed by the Cleveland Association of Members; he also



reported the action taken by several other Local Associations in regard to the matter, and also a request from two Associations that a proportional part of the annual dues be remitted to the management of each Local Association for the purpose of assisting its activities.

A preamble and resolutions were adopted by the Board providing for the appointment of a Committee on Development of the American Society of Civil Engineers.\*

The Board decided to close the Reading Room of the Society in the evenings during July and August.

Ballots for membership were canvassed, resulting in the election of 7 Members, 52 Associate Members, 1 Associate, 7 Juniors, and the transfer of 5 Juniors to the grade of Associate Member.

Eleven Associate Members and 1 Associate were transferred to the grade of Member.

Applications were considered and other routine business transacted.

Adjourned.

**June 19th, 1918.**—The Board met at 1.15 P. M., immediately after the adjournment of the meeting of the Membership Committee; President Talbot in the chair; Chas. Warren Hunt, Secretary; and present, also, Messrs. Alvord, Duryea, Fay, Flinn, Hawgood, Humphreys, Khuen, Lewis, and Rights.

The Roll of Honor published each month in *Proceedings* was considered, and it was decided that the names of those who have lost their lives in the service be printed at the head of the present Roll of Honor in distinctive type.

A report from the Membership Committee was received and acted upon.

The Secretary reported the death, on June 16th, 1918, of Director William R. Hill, and, on motion, the Secretary was requested to prepare a proper Minute on the death of Mr. Hill for insertion in the Minutes of the next meeting.

Adjourned.

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\* See page 604.

**SOCIETY ITEMS OF INTEREST****Committee on Development  
of the  
American Society of Civil Engineers**

PREAMBLE AND RESOLUTIONS ADOPTED BY THE BOARD OF DIRECTION,  
JUNE 18TH, 1918.

"The development and application of the sciences in recent decades have caused profound changes in the social and industrial relationships of all peoples.

"The Engineer has been a leader in this progress.

"Sociological and economic conditions are in a state of flux and are leading to new alinements of the elements of society.

"These new conditions are affecting deeply the profession of engineering in its services to society, in its varied relationships to communities and nations, and in its internal organization.

"A broad survey of the functions and purposes of the American Society of Civil Engineers is needed in order that an intelligent and effective readjustment may be accomplished so that the Society may take its proper place in the larger sphere of influence and usefulness now opening to the Profession.

"Such a survey and readjustment can be accomplished successfully only with the aid of the membership throughout the country.

"Any steps toward changes in organization must lead to a revision of the Constitution of the Society, which has not been materially modified for many years, during which the Society has grown rapidly and has established 22 Local Associations of Members.

"The Constitution should be revised only after securing the views of the membership of the Society as to what its purposes and activities should be and as to the instrumentalities through which these purposes and activities should be carried out.

"Any changes in organization must take into account all the conditions above indicated, and also the relationship of the American Society of Civil Engineers to other engineering organizations and to the public.

"Therefore:

"*Resolved*, that a Committee be created to report on the purposes, field of work, scope of activity and usefulness, organization, and methods of work of the American Society of Civil Engineers, and to make recommendations concerning these matters; the Committee to consist of one member chosen by each Local Association of Members, and seven members at large appointed by the President.

"*Resolved*, that the President be instructed to select from this Committee an executive committee of not less than five nor more than nine members, and to appoint the chairman of this executive committee, who shall also be the chairman of the general committee.

"*Resolved*, that the President be instructed to prepare a precept for the general guidance of this Committee.

"*Resolved*, that this Committee be requested to present to the Board of Direction a preliminary report, not later than November 1st, 1918,

so that it may be printed and distributed to the membership in advance of the Annual Meeting in January, 1919, at which meeting it will be presented for discussion."

#### **Engineer Officers Wanted by the War Department**

During July, 1918, circulars and application blanks relative to commissions in the Engineer Reserve Corps were forwarded to all members of this Society between the ages of 32 and 42.

As the requisite number of officers has not yet been secured, it has seemed advisable to bring the matter again to the attention of the membership, and urge all those who are in a position to accept commissions, as Captain or First Lieutenant, to offer their services to the Government.

Applications for examination must be made on the proper blank (which may be obtained from the Office of the Chief of Engineers, or from the Secretary of this Society), and must be forwarded to the Chief of Engineers at Washington, D. C.

The qualifications of the applicants will be considered in the Office of the Chief of Engineers, and those selected will be notified when to appear at the designated place for the professional and physical examination; this will be conducted by a Board of Engineers sent out from Washington, D. C.

The Examining Board will only receive applications for appointment in the grades of first lieutenant and captain, and only those applicants meeting the following requirements will be considered, viz:

Age limits: For the grade of first lieutenant—32 to 36 years; for captain—36 to 42. These limits may be slightly increased or decreased in special cases, except that no one who is within the draft age will be considered.

Applicants must be engaged in the active practice of the engineering profession, in one of its various branches, and be in good physical condition.

Professional qualifications and experience: No set rules have been established. An applicant's fitness for commission will be determined by the Examining Board.

All applicants must be citizens of the United States.

No applications will be received from any one now in Government service.

Applications will not be considered from any one born in a country with which the United States is at war, or born in a country allied with a country with which the United States is at war, even though he be a naturalized citizen of this country.

All applicants accepted by the Examining Board will be commissioned within ten days or two weeks, and, within a few days thereafter,

will receive orders to report at an Engineer Officers' Training Camp, either at Camp Lee, Petersburg, Va., or at Camp Humphreys, Va., near Washington, where they will be given a course in military training previous to being assigned to duty with Engineer troops.

Applicants must understand, however, that it is required of an Engineer officer that he not only be professionally qualified, but must also possess the requisite qualities of leadership and temperament to fit him for the command of troops. The case of each student officer will be carefully considered by a Board of Officers of the Corps of Engineers of the Regular Army, just previous to the completion of his course of instruction (unless circumstances necessitate an earlier consideration), and, as a result of the showing which he has made, he will either be allowed to retain his commission, or will be honorably discharged.

The Government will allow traveling expenses at the rate of seven cents per mile to applicants who may be commissioned, and they will also receive, while in the training camp, the regular pay of an officer of their rank.

Applicants who receive commissions and are ordered to camp, should provide themselves only with the usual Engineer officer's uniform, cap, puttees, and tan shoes. For training purposes, the camp authorities will issue them, on memorandum receipt, equipment, and will provide the necessary sleeping accommodations.

The only manner in which men between 31 and 42 years of age may be certified to attend an Engineer Officers' Training Camp is to be ordered there for duty as students after having been commissioned in the Engineer Reserve Corps.

The Board of Examiners will hold examinations in the following cities:

Washington, D. C.	Louisville, Ky.	San Francisco, Cal.
Philadelphia, Pa.	Chicago, Ill.	Los Angeles, Cal.
New York, N. Y.	Indianapolis, Ind.	Deming, N. Mex.
Boston, Mass.	St. Louis, Mo.	Dallas, Tex.
Albany, N. Y.	Kansas City, Mo.	New Orleans, La.
Buffalo, N. Y.	St. Paul, Minn.	Memphis, Tenn.
Cleveland, Ohio	Denver, Colo.	Nashville, Tenn.
Detroit, Mich.	Salt Lake City, Utah	Birmingham, Ala.
Pittsburgh, Pa.	Butte, Mont.	Atlanta, Ga.
Youngstown, Ohio	Seattle, Wash.	Charleston, S. C.
Cincinnati, Ohio	Portland, Ore.	Richmond, Va.

#### Recent Gifts to the Engineering Societies Library

During the past twenty years the Westinghouse Electric and Manufacturing Company and the General Electric Company have collected a valuable library of about nine thousand volumes on electricity. The collection was intended especially for use in patent searches and is

particularly rich in patent material. Files of all the principal patents relating to electric light and power issued by America, England, France, and Germany are included, together with copies of the patents owned or controlled by the two companies. Another feature, and one of unusual value, is a series of volumes containing the records of the important adjudicated patent causes of these companies and their predecessors during the past twenty-five years, and forming a storehouse of electrical history. There are also files of about one hundred electrical periodicals.

It is a pleasure to announce that this collection has now been presented by the owners to the Engineering Societies Library. This gift, which was arranged through Mr. Charles A. Terry, Vice-President, Westinghouse Electric and Manufacturing Company, and Mr. Charles Neave, Counsel, General Electric Company, was made with the thought that the collection would be useful to many engineers if housed in an easily accessible location. It is an unusually valuable accession, for which the Library authorities are deeply grateful.

The books have been transferred to the Engineering Societies Library, where they may now be consulted.

During April, 1918, Mr. Jesse M. Smith, presented nearly four hundred volumes and pamphlets selected from his private library, consisting of engineering periodicals, and of records of patent causes with which Mr. Smith has been connected.

Mr. Putnam A. Bates has presented large portfolios, containing a set of drawings for the new fire alarm system of New York City, which will prove interesting to engineers.

F. H. Newell, M. Am. Soc. C. E., has collected and presented a number of interesting publications relating to the Council of Engineering Societies on National Public Works, which was active in attempting to reform the policy governing the conduct of public works in this country during the Eighties.

Space forbids the mention of many other gifts, but these, in nearly every case, have been of decided value to the Library, and have been appreciated also as evidence of friendly interest in its success. It is hoped that every member will bear the needs of the Library in mind and present from time to time any new or old engineering material which he can spare. General co-operation will bring to its shelves much scattered material which cannot be obtained in any other way.

#### **Duluth Engineers at "Get-Together" Dinner**

The engineers of Duluth, Minn., took the first steps toward the formation of a Duluth Engineers' Club, by meeting at a "get-together" dinner during the evening of May 20th, 1918, at the Kitchi Gammi Club.



At present, Duluth has no club embracing all engineers. During the past there have been informal committees for the entertainment of visiting engineers, and about thirty years ago a movement to organize was initiated, but not completed. Duluth has many other representative clubs and, the civic spirit being strongly developed, ranks high among other cities of the country for its activities and discussions of public questions. The environment is splendid for the growth of an engineers' organization.

The movement for the formation of a club has been under consideration for about six years, but it lacked enthusiasm until the successful launching and maintenance of the Duluth Association of Members of the American Society of Civil Engineers during the last three and a half years showed the possibilities.

There are within reasonable distance of Duluth, more than one hundred members of the four large National engineering societies, a number of members of the lesser engineering societies, and many non-members. Until the Duluth Association of Civil Engineers was organized, these engineers had no common ground of meeting, no means to render their united thought effective on questions concerning the welfare of the Profession, or to promote the civic activities of their skill. A force representing education, experience, and high ideals lay dormant, ignored, and unused for the common good.

The Duluth Association of Civil Engineers, however, can and does represent only a small part of the whole body of trained technical men. Something bigger and broader is needed in Duluth. With this view in the minds of the Civil Engineers, the Duluth Association, in March, 1917, appointed Messrs. W. H. Hoyt, W. B. Patton, and W. H. Woodbury, as a committee to develop a plan for a Duluth Engineers' Club. This Committee has studied the situation carefully, and is now ready to help in the development.

Its first important move was the call sent out for the "get-together" dinner to all members of the four National engineering societies living within suitable distance of Duluth to attend and take part in the discussion. About seventy engineers were present, and took an active interest in the movement. Favorable responses were received from others who could not be present during the evening. The Committee prepared an excellent programme of talks and lantern-slide pictures.

F. E. House, President of the Duluth and Iron Range Railroad, and retiring President of the Duluth Association of Members of the American Society of Civil Engineers, acted as toastmaster. In opening the programme, he outlined briefly the objects of the meeting, and called attention to the importance of the engineer in all lines of activity of the war and the splendid qualities of American engineers in France, who could fight as well as work. He stated that "steps have already

been taken toward the formation of an engineering club, and it is for the assembly here to-night to say whether they will be carried out."

Mr. W. H. Woodbury was called on to outline the plan. Three objects of the club were given by him; first, professional; second, social; third, civic. Four plans of membership have been considered: First, to have an organization for all professional engineers, junior engineers, and associates, with different status for each; second, an organization made up of members of the four National societies; third, an organization of members and a limited number of associates; and fourth, professional engineers only, all on an equal standing.

Mr. W. H. Hoyt reported preliminary suggestions for arranging a home for the club.

A resolution was offered by Mr. T. W. Hugo, Emeritus Member of the American Society of Mechanical Engineers, that it was the sense of those at the gathering that steps should be taken to form an engineers' club in Duluth and that a committee be appointed to develop the plan. This was passed unanimously. Mr. House appointed a committee of eight representative engineers as follows: American Institute of Electrical Engineers: W. N. Ryerson, Chairman, Walter F. Schwedes; American Institute of Mining Engineers: Edwin J. Collins, Walter G. Swart; American Society of Mechanical Engineers: Oscar B. Bjorge, W. H. Gallagher; American Society of Civil Engineers: W. H. Hoyt, W. H. Woodbury.

It is hoped that this Committee will make such progress that another meeting can be called in June to put its decisions into effect.

Although it is realized that engineers are busy with war activities and responsibilities, it is felt here that this is the time to unite the whole Profession in one effective body, promoting its interests and welfare, and rendering service to the community. War has shown the great responsibility and opportunity of engineers to direct and do the work of the nation. It has emphasized the lack of complete unity of the Profession both locally and nationally.

The progress made by the National engineering societies in unifying their efforts toward securing the proper recognition and employment of their talents to the fullest degree, has been reflected by many cities in the formation of strong, well-conceived engineers' clubs which have even advanced further in their work for the Profession.

Duluth has a large list of engineers of high standing as individuals, and the leaders of the movement for a club are very optimistic of the strength and success possible.

The programme of the evening included addresses by men of nation-wide reputation in engineering fields.

Dean John Allen, of the College of Engineering of the University of Minnesota, talked of the heavy call for engineers, the depletion of

the numbers of students attending the universities, and the drawing away of their instructors. He urged on the engineers present the necessity of encouraging young men to take up engineering studies in order that deficiencies in the number of engineers may be prevented, quoting from President Wilson's address to educators, "every parent is urged to keep his children in school and college, no matter what sacrifice is necessary at home." The country is facing a serious problem, in the shortage of engineers, and the Government will soon be forced to take drastic action.

Mr. Calvin W. Rice, National Secretary of the American Society of Mechanical Engineers, brought greetings from his Society to the engineers of Duluth, and also read a telegram from the American Institute of Electrical Engineers expressing good will for the organization of a club and hoping that its members would take an active part as well as form a local branch of the Institute. Mr. Rice's talk was full of eloquent appeal to the engineers to take up the work and place on its banner the idea of high service for the general welfare of the Commonwealth and Profession. He set forth that it is for the engineers of America to give to the service the loftiest expression of its objects in organizing any technical society.

Mr. Kirby L. Strickland, Erecting Manager of the American Bridge Company at Chicago, Ill., gave a talk on the Union Pacific Railway Company's new bridge over the Missouri River at Omaha, Nebr., illustrated with lantern slides.

Mr. Richard Khuen, Jr., member of the Board of Direction of the American Society of Civil Engineers, who had a hand in building the famous "Hell Gate" Bridge at New York City, described the work, and, with lantern slides, illustrated the construction in a very interesting manner. A moving picture film was used to show how the job was arranged.

#### Engineering Congress, Java, 1919

The following letter relative to an Engineering Congress to be held in Java in 1919, under the auspices of the Royal Netherlands Institute of Engineers, together with a description of the Dutch East Indies and a statement of the scope of the Congress, is published here for the information of the membership:

"9 Highland Pl., Maplewood, N. J

"May 9th, 1918.

"CHARLES WARREN HUNT, Esq.,

"Secretary, American Society of Civil Engineers,

"33 W. 39th St., New York City.

"DEAR SIR: The Royal Netherlands Institute of Engineers are planning to have an engineering congress in Java sometime in 1919, in connection with which the interest of America, Australia, and Japan

is solicited. The writer and Mr. Jhr. J. C. van Reygersberg Versluys, who recently passed through the States *en route* to Holland, have been asked to give publicity to this project.

"While the war will no doubt exert a curbing influence upon an undertaking of this nature, the fact that the Netherlands Indies is a land of wealth and opportunity and only awaits a return of more normal conditions before its industrial development will proceed with rapid strides, will, undoubtedly, make this congress of particular interest to engineers, manufacturers, and exporters.

"Anything you may be able to do to bring this matter to the attention of the members of the American Society of Civil Engineers and its affiliations, will be greatly appreciated.

"More definite information will be available at a later date. It is the present intention to have the more important proceedings printed in pamphlet form for distribution. Further inquiries may be made by communicating with the Royal Netherlands Institute of Engineers, East Indian Section, Batavia, Java.

"Yours very truly,

"FRANK B. DE LARA."

*The Dutch East Indies.*—The Dutch East Indies comprise the largest and most valuable islands of Malaysia, consisting of Java, Sumatra, the most of Borneo, Celebes, Moluccas, numerous smaller islands, and part of New Guinea. They cover an area of about 736 400 sq. miles, lying between latitudes N. 6 and S. 10, and spreading about 3 000 miles. The total population is about 47 000 000, of which Java, the most important of the group, with an area of 50 500 sq. miles, claims 37 000 000. This latter island has a length of about 650 miles and an average width of about 80, and has a broken volcanic range of mountains running through its length. It may be interesting to note that, with an area of about one-third that of California, it has a population twelve times greater.

Among the principal agricultural resources are sugar, of which 1 800 000 tons are exported every year; rubber, which has been developed since 1910, and which, in 1916, was exported to the amount of 30 000 tons, and is expected to reach 100 000 tons for 1920; tea, with an average annual export of 50 000 tons; copra; oil-producing plants; kapok; quinine, almost the entire production of the world; rice; tapioca; and tobacco, amounting to about 6 500 tons yearly, of which 25% is the well-known Sumatra leaf. Formerly, Java was famous for its production of fine coffee, but, some years ago, this culture suffered from the ravages of a very malignant blight, and is now produced only in small quantities, although a more sturdy plant, producing an inferior bean, is cultivated to some extent.

Although the mineral resources were not considered as being of particular importance up to a few years ago, more recent geological surveys and investigations augur a promising future. Coal production,

amounting to 600 000 tons per year, has been equal to only about one-third of the local consumption, but the recent discovery of large fields, together with the success of governmental experiments in converting this coal into coke, will afford considerable encouragement to many industries. Large iron ore deposits have been discovered in Sumatra, Borneo, and the Celebes, and now that coke, which, in large quantities, formerly had to be imported, is obtainable locally, and as limestone is abundant, the erection of the first blast furnace and steel mill is expected immediately after the war. Valuable nickel deposits have also been found in the Celebes, which are expected soon to rank high among present producing fields. Petroleum production is already well established in the world's supply, and is controlled principally by the Royal Dutch Shell Company, the crude oil of the Sumatra fields yielding upward of 50% of gasoline.

Small water-power plants are numerous throughout the mountain regions of Java, and recent surveys, conducted by a special staff of Government engineers, have led to the planning of large hydraulic power projects which will be carried out after the war. The electrification of the railroads, and the production of electric power for industrial purposes, will be coincident with this development.

The railway system in Java is complete, with the exception of a few branch lines, but large districts in the other islands are still to be opened up by highways and railroads. Motor transportation is quite popular.

The most important shipping ports are Tandjong Priok (port for Batavia), Soerabaya, Semarang, and Tjilatjap, in Java; Macassar, in the Celebes; Balik Papan, in Borneo; Belawan-Deli, and Padang, in Sumatra. Although all these ports afford very good shipping facilities, at several of them improvements are under way which, when completed after the war, will make them modern in all respects.

The rivers throughout the islands are, in general, shallow, and not well adapted for transportation.

To the technically interested visitor are recommended inspection of the various agricultural industries; the petroleum industry in Sumatra and Borneo; the extensive irrigation systems in Java; the railways, which are typical of the 3 ft. 6-in. gauge system, developed to a high grade of efficiency; and the ambitious harbor improvements at present under development at Tandjong Priok and Soerabaya.

Among the subjects to be treated at the proposed Congress, the following may be of special interest:

*A.—Harbors of the Netherlands Indies.—*

1. Location.
2. Existing Harbors.
3. Construction.



4. Present and Proposed Development.
5. General Administration.
6. Financial Outlays and Returns.
7. Bonded Ports.
8. Reinforced Concrete in Harbor Works.
9. Dredging and Dredging Machinery.
10. Dry Docks.
11. Navigation Buoys and Beacons.

*B.—Railways of the Netherlands Indies.—*

1. Railway Systems.
2. Planning, Building, and Exploitation of Secondary Railways.
3. Railway Standardization.
4. Electrification.
5. Cog-Wheel Railways.
6. Reinforced Concrete Structures.
7. Terminals and Rights-of-Way in Cities.
8. Tariffs and Government Regulation.
9. Sinisoidal Wear of Electric Tram Line Rails.
10. Principal Railway Structures in the Netherlands Indies.
11. Signal Systems.
12. Rolling Stock.

*C.—Water Supply, Irrigation, and Drainage.—*

1. General Discussion of the Subject.
2. Organization and Control in the Netherlands Indies.
3. Organization and Control in the Philippines, Japan, British India, and the United States.
4. Details of Construction.
5. The Financing, Government Regulation, and Economics of Water Supply, Irrigation, and Drainage.
6. Sources and Systems of Water Supply.
7. Hydro-Geology.
8. Bacteriological and Chemical Properties of Water Supplies.
9. Consumption.
10. Description and History of, and Methods of Managing, Existing Systems.
11. Tropical Sewerage Systems.

*D.—City Planning and Architecture Specialized for the Tropics.—*

1. Inexpensive Houses.
2. The Modern Tropical House.
3. Earthquake-Proof Structures.
4. Sanitation of Tropical Communities.
5. Tropical Hospitals.

6. Town and City Planning in the Tropics.
7. Road Building, Maintenance, and Financing.
8. Motor Car and Truck Traffic.

*E.—Industrial Activities and Opportunities in the Netherlands Indies.—*

1. Opportunities to Open Up New Industries for the Manufacture of Textiles, Matches, Pottery, Glass, Fertilizers, Boxes, Barrels, and Bags.
2. Natural Products and Raw Materials of the Netherlands Indies Available for Industrial Purposes, such as Coal, Petroleum, Tin, Iron, Nickel, Vegetable Oils, Cotton, Ramie, Hemp, Kapok, Sisal, Jute, Rubber, and Sugar.
3. The Labor Question as a Factor in Industrial Development.
4. Hydro-Electric Power Development, Production, and Transmission.
5. Prospective Manufacture of Iron and Steel.
6. Electrically Operated Sugar Machinery.
7. Waste and By-Products of Sugar Manufacturing and Their Industrial Uses.
8. The Manufacture of White Sugar without Refining.
9. Co-Operative Central Bureaus of Efficiency in the Sugar Industry.
10. The Manufacture of Fertilizers.

**The Duty of the Employer in the  
Reconstruction of the Crippled Soldier**

The following article by Douglas C. McMurtrie, Director of the Red Cross Institute for Crippled and Disabled Men, New York City, is published for the information of the membership:

"We must count on the return from the front of thousands of crippled soldiers. We must plan to give them on their return the best possible chance for the future.

"Dependence cannot be placed on monetary compensation in the form of a pension, for in the past the pension system has proved a distinct failure in so far as constructive ends are involved. The pension has never been enough to support in decency the average disabled soldier, but it has been just large enough to act as an incentive to idleness and semi-dependence on relatives or friends.

"The only compensation of real value for physical disability is rehabilitation for self-support. Make a man again capable of earning his own living and the chief burden of his handicap drops away. Occupation is, further, the only means for making him happy and contented.

"Soon after the outbreak of hostilities the European countries began the establishment of vocational training schools for the rehabilitation of disabled soldiers. They had both the humanitarian aim of

restoring crippled men to the greatest possible degree and the economic aim of sparing the community the burden of unproductivity on the part of thousands of its best citizens. The movement had its inception with Mayor Edouard Herriot of the City of Lyons, France, who found it difficult to reconcile the desperate need for labor in the factories and munition works while men who had lost an arm or a leg but were otherwise strong and well were idling their time in the public squares. He therefore induced the municipal council to open an industrial school for war cripples which has proved the example and inspiration for hundreds of similar schools since founded throughout France, Italy, Germany, Great Britain, and Canada.

"The disability of some crippled soldiers is no bar to returning to their former trade, but the injuries of many disqualify them from pursuing again their past occupation. The schools of training prepare these men for some work in which their physical handicap will not materially interfere with their production.

"The education of the adult is made up largely of his working experience. The groundwork of training in his past occupation must under no circumstances be abandoned. The new trade must be related to the former one or be, perhaps, an extension or specialization of it. For example, a man who had done manual work in the building trades may by instruction in architectural drafting and the interpretation of plans be fitted for a foreman's job, in which the lack of an arm would not prove of serious handicap. A trainman who had lost a leg might wisely be prepared as a telegrapher, so that he could go back to railroad work, with the practice of which he is already familiar.

"Whatever training is given must be thorough, for an adult cannot be sent out to employment on the same basis as a boy apprentice. He must be adequately prepared for the work he is to undertake.

"The one-armed soldier is equipped with working appliances which have supplanted the old familiar artificial limb. The new appliances are designed with a practical aim only in view; they vary according to the trade in which the individual is to engage. For example, the appliance for a machinist would be quite different from that with which a wood turner would be provided. Some appliances have attached to the stump a chuck in which various tools or hooks can interchangeably be held. The wearer uses these devices only while at work; for evenings and holidays he is provided with a 'dress arm' which is made in imitation of the lost natural member.

"An important factor in the success of re-educational work is an early start, so that the disabled man shall have no chance to go out unemployed into the community. In even a short period of exposure to the sentimental sympathy of family and friends, his 'will to work' is so broken down that it becomes difficult again to restore him to a stand of independence and ambition. For this reason, therefore, the plan for his future is made at as early a date as his physical condition admits, and training is actually under way before the patient is out of the hospital.

"In the readjustment of the crippled soldier to civilian life his placement in employment is a matter of the greatest moment. In this field the employer has a very definite responsibility.

"But the employer's duty is not entirely obvious. It is, on the contrary, almost diametrically opposite to what one might superficially infer it to be. The duty is not to 'take care of' from patriotic motives, a given number of disabled men, finding for them any odd jobs which are available, and putting the ex-soldiers in them without much regard to whether they can earn the wages paid or not.

"Yet this method is all too common. A local committee of employers will deliberate about as follows: 'Here are a dozen crippled soldiers for whom we must find jobs. Jones, you have a large factory; you should be able to take care of six of them. Brown, can you not find places for four of them in your warehouses? And Smith, you ought to place at least a couple in your store.'

"Such a procedure cannot have other than pernicious results. In the first years of the war the spirit of patriotism runs high, but experience has shown that men placed on this basis alone find themselves out of a job after the war has been over several years, or, in fact, after it has been in progress for a considerable period of time.

"A second weakness in this method is that a man who is patronized by giving him a charity job, comes to expect as a right such semi-gratuitous support. Such a situation breaks down rather than builds up character, and makes the man progressively a weaker than a stronger member of the community. We must not do our returned men such injury.

"The third difficulty is that such a system does not take into account the man's future. Casual placement means employment either in a make-shift job as watchman or elevator operator such as we should certainly not offer our disabled men except as a last resort—or in a job beyond the man, one in which, on the cold-blooded considerations of product and wages, he cannot hold his own. Jobs of the first type have for the worker a future of monotony and discouragement. Jobs of the second type are frequently disastrous, for in them a man, instead of becoming steadily more competent and building up confidence in himself, stands still as regards improvement and loses confidence every day. When he is dropped or goes to some other employment, the job will have had for him no permanent benefit.

"Twelve men sent to twelve jobs may all be seriously misplaced, while the same twelve placed with thought and wisdom and differently assigned to the same twelve jobs may be ideally located. If normal workers require expert and careful placement, crippled candidates for employment require it even more.

"The positive aspect of the employer's duty is to find for the disabled man a constructive job which he can hold on the basis of competency alone. In such a job he can be self-respecting, be happy, and look forward to a future. This is the definite patriotic duty. It is not so easy of execution as telling a superintendent to take care of four men, but there is infinitely more satisfaction to the employer in the results, and infinitely greater advantage to the employee. And it is entirely practical, even in dealing with seriously disabled men.

"A cripple is only debarred by his disability from performing certain operations. In the operations which he can perform, the disabled man will be just as efficient as his non-handicapped colleague,

or more so. In the multiplicity of modern industrial processes it is entirely possible to find jobs not requiring the operations from which any given type of cripples are debarred. For such jobs as they can fill the cripple should be given preference.

"Thousands of cripples are now holding important jobs in the industrial world. But they are men of exceptional character and initiative and have, in general, made their way in spite of employers rather than because of them. Too many employers are ready to give the cripple alms, but not willing to expend the thought necessary to place him in a suitable job. This attitude has helped to make many cripples dependent. With our new responsibilities to the men disabled in fighting for us, the point of view must certainly be changed. What some cripples have done, other cripples can do—if only given an even chance.

"The industrial cripple should be considered as well as the military cripple, for in these days of national demand for the greatest possible output there should not be left idle any men who can be made into productive workers.

"With thoughtful placement effort, many men can be employed directly on the basis of their past experience. With the disabled soldiers who profit by the training facilities the government will provide, the task should be even easier.

"This, then, constitutes the charge of patriotic duty upon the employer:

"To study the jobs under his jurisdiction to determine what ones might be satisfactorily held by cripples. To give the cripples preference for these jobs. To consider thoughtfully the applications of disabled men for employment, bearing in mind the importance of utilizing to as great an extent as possible labor which would otherwise be unproductive. To do the returned soldier the honor of offering him real employment, rather than proffering him the ignominy of a charity job.

"If the employer will do this, it will be a great factor in making the complete elimination of the dependent cripple a real and inspiring possibility."

### ANNOUNCEMENTS

The Reading Room of the Society is open from 9 A. M. to 10 P. M., every day, except Sundays, Fourth of July, Thanksgiving Day, and Christmas Day.

### FUTURE MEETINGS

September 4th and 18th, 1918.—8.30 P. M.—Meetings will be held on these evenings as usual, and announcement of the speakers and subjects will be made later.

### SEARCHES IN THE LIBRARY

In January, 1902, the Secretary was authorized to make searches in the Library, upon request, and to charge therefor the actual cost to the Society for the extra work required. Since that time many searches have been made, and bibliographies and other information on special subjects furnished.

The resulting satisfaction to the members who have made use of the resources of the Society in this manner has been expressed frequently, and leaves little doubt that if it were generally known to engineers that such assistance could be had, many would avail themselves of it.

On October 1st, 1916, the Library of the American Society of Civil Engineers ceased to exist as such, and was merged in the Engineering Societies Library, adding 67 000 volumes to the collection, which comprises also the former libraries of the American Institute of Mining Engineers, the American Society of Mechanical Engineers, and the American Institute of Electrical Engineers, and now has a total of 133 000 volumes and pamphlets. Containing, as the Library now does, the special collections mentioned, its scope is broadened, and, as it receives an unusually large number of technical periodicals, it is well equipped to continue the service formerly rendered by the Society Library.

The Engineering Societies Library offers this service at a cost which is trifling compared with the value of the time of an engineer who personally looks up such matters, and the work can be performed quite as well, and much more quickly, by persons familiar with the Library.

In asking that such work be undertaken, members should specify clearly the subject to be covered, and whether references to general books only are desired, or whether a complete bibliography, involving search through periodical literature, is desired.

It sometimes happens that references are found which are not readily accessible to the person for whom the search is made. In that case the Library is prepared to furnish photographic copies of the material at a small price per page. This method is particularly



useful when there are drawings or figures in the text, which would be very expensive to reproduce by hand.

The Library is also able to provide translations of articles in foreign languages when desired.

Requests for searches, copies, translations, etc., should be addressed to the Director, Engineering Societies Library, 29 West 39th Street, New York City, who will gladly give information concerning the charges for the various kinds of service.

### PAPERS AND DISCUSSIONS

Members and others who take part in the oral discussions of the papers presented are urged to revise their remarks promptly. Written communications from those who cannot attend the meetings should be sent in at the earliest possible date after the issue of a paper in *Proceedings*.

All papers accepted by the Publication Committee are classified by the Committee with respect to their availability for discussion at meetings.

Papers which, from their general nature, appear to be of a character suitable for oral discussion will be published as heretofore in *Proceedings*, and set down for presentation to a future meeting of the Society, and, on these, oral discussions, as well as written communications, will be solicited.

All papers which do not come under this heading, that is to say, those which from their mathematical or technical nature, in the opinion of the Committee, are not adapted to oral discussion, will not be scheduled for presentation to any meeting. Such papers will be published in *Proceedings* in the same manner as those which are to be presented at meetings, but written discussions only will be requested for subsequent publication in *Proceedings* and with the paper in the volumes of *Transactions*.

The Board of Direction has adopted rules for the preparation and presentation of papers, which will be found on page 35 of the Year Book for 1918.

### LOCAL ASSOCIATIONS OF MEMBERS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

#### San Francisco Association, Organized 1905.

Jerome Newman, President; Nathan A. Bowers, Secretary-Treasurer, 502 Rialto Building, San Francisco, Cal.

The San Francisco Association of Members of the American Society of Civil Engineers holds regular bi-monthly meetings, with banquet, and weekly informal luncheons. The former are held at 6 P. M., at the Palace Hotel, on the third Tuesday of February, April, June, August,

October, and December, the last being the Annual Meeting of the Association.

Informal luncheons are held at noon, every Wednesday, at the Engineers' Club, 57 Post Street, where special tables are reserved for members and guests of the Association.

The by-laws of the Association provide for the extension of hospitality to any member of the Society who may be temporarily in San Francisco, and any such member will be gladly welcomed as a guest.

#### (Abstract of Minutes of Meeting)

**June 18th, 1918.**—The meeting was called to order at the Palace Hotel; President Newman in the chair; Nathan A. Bowers, Secretary; and present, also, 59 members and guests.

The Entertainment Committee provided a speaker, Dr. Josef Morehodge, who described his experience on the Russian front and later as a captive in Germany.

It was announced that word had been received from various members of the Association now in the service, including Capt. Joseph A. Kitts, and Sergeant Bolin who had arrived safely in France; Capt. Charles Gilman Hyde, of the Sanitary Corps, at Fort Oglethorpe, Ga.; Capt. M. H. Brinkley, of the Engineer Corps, at Washington, D. C., and H. J. Brunnier, present at the meeting, now Chief Assistant Engineer, Department of Concrete Ship Construction, Emergency Fleet Corporation, at Philadelphia, Pa.

President Newman appointed Messrs. F. C. Herrmann, L. L. Hohl, and S. T. Harding, as the Entertainment Committee for the August meeting.

The Secretary read a communication from the Cleveland Association, inviting the Association to name a representative to a Joint Association Conference for the discussion of Society affairs. Communications from the Duluth and Chicago Associations relative to the plan, were also read. On motion, duly seconded, it was decided to refer the matter to a committee of three, with instructions to report at the August meeting. President Newman subsequently appointed Messrs. Kibbe, White, and Vensano as such Committee.

The Secretary reported that the Employment Bureau conducted by the Association was in active condition, the list of applications having been brought up to date and that calls for men were being received more frequently than heretofore. Members were urged to report promptly to the office of the Secretary any vacancies which come to their attention.

Mr. Haehl, speaking for the Licensing Committee, reported that an engineers' and architects' licensing bill had been prepared by Los Angeles architects and would undoubtedly be proposed at the next session of the Legislature, and asked what policy and course of action was desired by the Association on the part of the Committee. After discussion of the subject by Messrs. Hazen, Huber, Saph, Kibbe, Brunnier, Chew, Jessup, and Nishkian, it was decided, on motion, duly seconded, to postpone discussion of the licensing question until the August meeting of the Association, the Committee, in the meantime, to act in the matter at its discretion.

At the second session of the meeting, which was called at 8 P. M., there were present, in addition to the members of the Association, members of the Mechanical, Electrical, and Mining Engineers' Societies, bringing the total attendance up to 125.

An address on "The Present Crisis", was presented by Charles Mills Gayley, Dean of the Faculties of the University of California.

A vote of thanks was tendered Professor Gayley for his interesting address.

Adjourned.

#### **Colorado Association, Organized 1908.**

L. R. Hinman, President; A. N. Miller, Secretary-Treasurer, 1122 Detroit Street, Denver, Colo.

The meetings of the Colorado Association of Members of the American Society of Civil Engineers (Denver, Colo.) are held on the second Saturday of each month, except July and August. The hour and place of meeting are not fixed, but this information will be furnished on application to the Secretary. The meetings are usually preceded by an informal dinner. Members of the American Society of Civil Engineers will be welcomed at these meetings.

Weekly luncheons are held on Wednesday at 12.30 P. M., at Daniels and Fisher's.

Visiting members are urged to attend the meetings and luncheons.

#### **(Abstract of Minutes of Meetings)**

**April 13th, 1918.**—The meeting was called to order at the Denver Athletic Club; Vice-President W. C. Huntington in the chair; L. R. Hinman, Secretary; and present, also, 13 members and 1 guest.

The minutes of the meetings of February 9th and March 9th, 1918, were read and approved.

The Secretary read a letter from the Secretary of the Engineering Foundation relative to industrial laboratories in the vicinity of Denver which are engaged on research work.

The Secretary announced the receipt of an invitation to the members of the Association to attend a special meeting of the Denver Section of the American Institute of Electrical Engineers, to be addressed by Mr. Sheppard, of the United States Bureau of Standards.

Mr. George G. Anderson addressed the meeting on conditions in California relative to the war.

Mr. Huntington spoke of recently published data showing the contribution of various universities throughout the country to war work, and pointed out that the University of Colorado headed the list in the number of men filling prominent positions in the service.

A paper by Mr. Arthur O. Ridgway, entitled "Our Railroads in War Time", was presented by the author, who showed the tabulated data with lantern slides. There was a general discussion of the subject, and a vote of thanks was tendered Mr. Ridgway for his paper.

The paper was followed by an informal discussion on subjects relative to the war.

Adjourned.

**May 11th, 1918.**—The meeting was called to order at the Denver Athletic Club; E. F. Vincent in the chair; L. R. Hinman, Secretary; and present, also, 9 members and 1 guest.

The minutes of the meeting of April 13th, 1918, were read and approved.

The Secretary announced the appointment of Messrs. Thomas W. Jaycox, Chairman, T. L. Wilkinson, and A. O. Ridgway as the Nominating Committee, by direction of President Follansbee.

A letter from Charles Warren Hunt, Secretary of the Society, with a copy of the action taken by the Board of Direction regarding the resolutions adopted by this and other Associations, relative to the sections of the War Revenue Act of 1917 affecting engineers, was read by the Secretary.

The Secretary announced the receipt from the Cleveland Association, of resolutions adopted by that Association, suggesting a Joint Association Constitutional Conference, and also read a letter from the Duluth Association relative to these resolutions. On motion, duly seconded, consideration of this matter was deferred until the Annual Meeting of the Association in June.

A discussion of the subject, "Highways and Highway Engineering", was opened by Mr. Charles W. Comstock, who was followed by Messrs. Vincent, Palen, Jaycox, and Johnson.

Adjourned.

#### **Atlanta Association, Organized 1912.**

B. M. Hall, President; Thomas P. Branch, Secretary-Treasurer, Georgia School of Technology, Atlanta, Ga.

(Abstract of Minutes of Meeting)

**July 5th, 1918.**—The meeting was called to order at the Chamber of Commerce Building, at 8.30 p. m.; President Benjamin M. Hall in the chair; Thomas P. Branch, Secretary.

The resignation of Mr. W. C. Spiker as Secretary, on account of absence from the city in connection with war work, was accepted, and Professor Thomas P. Branch was elected to succeed him.

The new activities of the Society under war conditions, as well as the necessary preparation by the Association to meet such changed conditions, were considered.

Adjourned.

#### **Baltimore Association, Organized 1914.**

H. G. Perring, President; Charles J. Tilden, Secretary-Treasurer, The Johns Hopkins University, Baltimore, Md.

(Abstract of Minutes of Meeting)

**May 8th, 1918.**—The Annual Meeting was called to order at 8.50 p. m.; Vice-President W. F. Strouse in the chair; C. J. Tilden, Secretary; and present, also, 12 members.

The minutes of the Annual Meeting of May 2d, 1917, and of the meeting of the Board of Directors of April 17th, 1918, were read and approved.

A letter from the Connecticut Society of Civil Engineers regarding the formation of student branches of the Society, was read by the Secretary, and on motion, duly seconded, was ordered to be filed.

The Secretary presented a letter from the Cleveland Association relative to a joint conference of the Local Associations on the matter of proposed amendments to the Constitution of the Society. After some discussion, on motion, duly seconded, the matter was laid on the table.

The Secretary also presented a letter from the American Association of Engineers of Chicago, enclosing a questionnaire for all engineering societies in America. On motion, duly seconded, the Secretary, was instructed to reply that the Association is a Local Association of the American Society of Civil Engineers, and to answer the questionnaire in such manner as he thought fitting.

The Secretary-Treasurer presented his Annual Report for the year ending May 1st, 1918, which covers a summary of the letter-ballot on the proposed revision of the Constitution of the Association, receipts and expenditures, and membership.

The question of suspending the activities of the Association during the war, was raised and discussed. On motion, duly seconded, it was decided that the Association remain active, at least during the coming year. It was further voted that every Thursday, at 1 P. M., members, who can conveniently do so, meet at the Chancery Inn for lunch, and the Secretary was instructed to notify the active membership to that effect.

Vice-President Strouse appointed Messrs. Hartman, Doeleman, and Tilden a Committee to nominate a candidate for President for the ensuing year, that being the only office to be filled under the revised Constitution of the Association. Mr. H. G. Perring was nominated for the office and, on motion, duly seconded, was declared elected.

Adjourned.

#### **Cleveland Association, Organized 1914.**

Harry Fuller, President; George H. Tinker, Secretary-Treasurer, 516 Columbia Building Cleveland, Ohio.

#### **(Abstract of Minutes of Meeting)**

**July 13th, 1918.**—The meeting was called to order at 12.15 P. M., at the rooms of the Cleveland Engineering Society; President Fuller in the chair; George H. Tinker, Secretary; and present, also, 17 members.

The minutes of the meeting of February 23d, 1918, were read and approved.

The Secretary-Treasurer made a statement as to the membership and finances of the Association.

The Secretary reported that the Executive Committee had appointed Messrs. Willard Beahan, A. J. Himes, and G. H. Tinker as delegates to the meeting of the Committee on Engineering Co-operation, on May 14th, 1918, but that none of them had been able to attend.

Announcement was made relative to the registration of engineers with the United States Employment Service.



The Secretary announced that Mr. Himes had resigned as a member of the Nominating Committee of the Society, and that Mr. Tinker had been appointed by the Board of Direction to complete his term of office.

Letters were read from A. D. Flinn, Secretary of Engineering Council, relative to his contemplated visit to Cleveland, and, on motion, duly seconded, the Secretary was directed to arrange with the Secretary of the Cleveland Engineering Society for a joint meeting on August 13th, 1918, the date of Mr. Flinn's visit.

On motion, duly seconded, the Secretary was also directed to arrange for the entertainment of Mr. W. H. Finley during his visit on September 10th, 1918.

The Secretary read a communication from the Board of Direction relative to the visit of the President, Secretary, or the Director from this District, and, on motion, duly seconded, he was directed to arrange for such visit.

A resolution by the Detroit Section of the American Society of Mechanical Engineers concerning instruction for women in drafting and inspection of structural materials, which was transmitted to the Association by the Board of Direction, was read. During the discussion which followed, it was stated that the Case School of Applied Science provides a summer course in drafting for women, and that women have been employed in many drafting-rooms in Cleveland. On motion, duly seconded, the Secretary was directed to call the attention of the President of Case School to the matter of instruction for the inspection of structural materials.

The Secretary announced that replies had been received from a majority of the Local Associations in regard to the organization of a Joint Association Constitutional Conference, and that nearly all the Associations heard from were in favor of such action.

The resolutions of the Board of Direction authorizing the organization of a Committee on Development of the Society, were read, and, after general discussion, on motion, duly seconded, the following preamble and resolutions were unanimously adopted:

*"Whereas*, at a meeting of the Cleveland Association of Members, A. S. C. E., held on February 23d, 1918, a resolution was passed inviting the Local Associations to join in the organization of a Joint Association Constitutional Conference, and

*"Whereas*, subsequently a number of the Associations expressed themselves as in favor of said conference, and

*"Whereas*, three Associations, in accepting the invitation to participate in such conference, stipulated that the Board of Direction should be represented, and

*"Whereas*, on June 18th, 1918, the Board of Direction adopted a preamble and resolution authorizing the creation of a Committee 'to report on the purposes, field of work, scope of activity and usefulness, and methods of work of the American Society of Civil Engineers, and to make recommendations concerning these matters', and

*"Whereas*, any such Committee to accomplish the most good must be free and unconstrained in its deliberations and activity; therefore, be it

*"Resolved*, that the Cleveland Association of Members endorses the action of the Board of Direction as a step toward the democratization and vitalization of the American Society of Civil Engineers;

*"Resolved*, that the Cleveland Association of Members accepts its share in this work and pledges its best efforts in furthering the advancement of the Society and the Engineering Profession;

*"Resolved*, that while disclaiming the intention to impugn the motives or question the honesty of purpose of any person, the Cleveland Association of Members believe (1) that three members at large is a sufficient number to represent those members of the Society not represented by a Local Association; (2) that the proposed method of appointing an executive committee and chairman is unwise and calculated to defeat the presentation of a fair and impartial report. The committee is 'to report' and 'to make recommendations'. No small number of members should be empowered to speak for the committee or to control its activities. The committee should perfect its own organization, and outline its programme of work without outside constraint.

*"Resolved*, that the Board of Direction is hereby requested to reconsider its action in respect to the above features.

*"Resolved*, that a copy of these Resolutions be sent to each of the Local Associations and that the proposed Joint Association Constitutional Conference be considered merged into the committee authorized by the Resolution of the Board of Direction passed June 18th, 1918."

On motion, duly seconded, President Fuller was authorized to appoint a member of the Committee from this Association.

Adjourned.

#### **Detroit Association, Organized 1916.**

T. A. Leisen, President; Clarence W. Hubbell, Secretary, 2348 Penobscot Building, Detroit, Mich.

The regular meetings of the Association are held on the second Friday of December, April, and October, the last being the Annual Meeting.

#### **District of Columbia Association, Organized 1916.**

A. P. Davis, President; John C. Hoyt, Secretary-Treasurer, U. S. Geological Survey, Washington, D. C.

#### **Duluth Association, Organized 1917.**

W. B. Patton, President; Walter G. Zimmermann, Secretary, Wolvin Building, Duluth, Minn.

The regular meetings of the Association are held at noon on the third Monday of each month (usually at the Kitchi Gammi Club), with luncheon, followed by a short business session and the reading of papers. Visiting members of the American Society of Civil Engineers can secure from the Secretary definite information relating to the meetings, at which they will be welcomed. The Annual Meeting is held on the third Monday in May.

## (Abstract of Minutes of Meetings)

**May 20th, 1918.**—The Annual Meeting was called to order; President F. E. House in the chair; Walter G. Zimmermann, Secretary; and present, also, 26 members and 3 guests: Richard B. Khuen, M. Am. Soc. C. E., President of the Pittsburgh Association; P. E. Thian, M. Am. Soc. C. E., President of the Northwestern Association; and Mr. Kirby L. Strickland, Division Erecting Manager of the American Bridge Company, Chicago, Ill.

The following officers were elected for the ensuing year: President, W. B. Patton; First Vice-President, Clarence Coleman; Second Vice-President, W. A. Clark; Treasurer, John Carson; and Secretary, Walter G. Zimmermann. The Board of Directors will consist of these officers and Messrs. E. R. Lewis and F. E. House.

The Secretary read letters from several Local Associations in regard to the proposed Association Constitutional Conference suggested by the Cleveland Association, after which President House called on Mr. Khuen to make a few remarks regarding the action of the Pittsburgh Association in considering the proposed Conference. Mr. Khuen stated that the members of that Association were heartily in favor of such Conference.

Mr. Thian stated that the Northwestern Association had not yet taken action in regard to the proposed Conference, but expected to do so at its next meeting.

After further discussion, on motion, duly seconded, the Committee recently appointed, consisting of Messrs. Clark, Taylor, Christie, and Reed, was instructed to draw up a set of resolutions expressing the sympathy of the Association with the Conference suggested by the Cleveland Association, that the Association be represented at such Conference, if held, and that copies of this resolution be sent not only to the Cleveland Association, but to all other Local Associations, and also to the Board of Direction.

Mr. Carson presented the Annual Report of the Treasurer, showing that the total receipts during the year were \$118.65 and the total disbursements \$106.50, leaving a balance of \$12.25. A bill for printing of \$15.04, was presented and approved for payment.

After further discussion of the question of the publication of papers read before the Association on motion, duly seconded, the Committee, consisting of Messrs. Ash, Taylor and Stack, was instructed to look further into the matter and report at the next meeting.

On motion, duly seconded, a rising vote of thanks was given the retiring-President, Mr. House, for his loyalty and interest in presiding over and building up the Duluth Association, not only during its informal existence from November, 1914, to May, 1917, but also during the first year of its formal organization.

Announcement was also made that Mr. House had just received the honorary degree of "Master of Civil Engineering" from Rensselaer Polytechnic Institute, Troy, N. Y.

In closing, Mr. House expressed his appreciation of the vote given him by the members and pledged his further loyal support to the Association.

Adjourned.

**June 17th, 1918.**—The meeting was called to order at the Kitchi Gammi Club; President W. B. Patton in the chair; Walter G. Zimmermann, Secretary; and present, also, 20 members and 2 guests.

President Patton announced the appointment of the following Committees for 1918-19: Entertainment, E. R. Lewis and W. A. Clark; Publicity, W. E. Hawley and W. H. Woodbury; Papers and Records, H. C. Ash, J. R. Stack, and G. A. Taylor; Auditing, W. H. Woodbury and George Bryan; Proposed Associational Conference, W. A. Clark, G. A. Taylor, C. D. Christie, and D. A. Reed; Proposed Engineers' Club, W. H. Hoyt, and W. H. Woodbury.

The Secretary read a letter from Alfred D. Flinn, Secretary of the Engineering Council, New York City, relative to a proposed trip which Mr. Flinn expects to make, from coast to coast, during July and August, in order to visit cities in which there are large numbers of engineers. On motion, duly seconded, it was decided to suggest to Mr. Flinn that if he will fix a date for a meeting with the engineers of Duluth and give the Association about ten days' notice, arrangements will be made for such meeting.

The following resolution, prepared by the Committee on Proposed Association Constitutional Conference, on May 31st, 1918, was ratified by a vote of all the members:

*"Whereas, The Cleveland Association of Members of the American Society of Civil Engineers has suggested that all Local Associations send delegates to a proposed constitutional conference, and*

*"Whereas, The Association is convinced that under methods of procedure employed in the past, it is almost impossible to secure a satisfactory revision of the Constitution, therefore be it*

*"Resolved: That this Association is in sympathy with the plan proposed by the Cleveland Association and favors the sending of a delegate, provided the Local Associations generally participate and that the Board of Direction of the parent Society be invited to send a delegate, and be it further*

*"Resolved: That a copy of these resolutions be sent to each of the Local Associations of Members of the American Society of Civil Engineers, and to the Board of Direction in New York."*

A paper by Mr. W. H. Woodbury, entitled, "Description of and Discussion of the Economics Involved in the Proposed Revision and Double Tracking of the Canadian Pacific Railway Company's Line at Notch Hill, British Columbia," was presented by the author.

Adjourned.

**July 15th, 1918.**—The meeting was called to order; President W. B. Patton in the chair; Walter G. Zimmermann, Secretary; and present, also, 19 members and 1 guest.

The Secretary read a letter from Secretary Chas. Warren Hunt in reference to the resolution, adopted by the Board of Direction of the Society, on June 18th, 1918, relative to the appointment of a delegate from each Local Association to a Committee on Development of the Society. Chairman Clark, of the Committee on Proposed Association Constitutional Conference, stated that that Committee to which this

matter had been referred, recommended the appointment of a delegate. On motion, duly seconded, Past-President House was appointed a delegate, with Mr. W. H. Hoyt as alternate, not only to the Committee of the Society but also to the conference proposed by the Cleveland Association, if such conference is held.

On motion, duly seconded, it was decided that the Committee on Proposed Association Constitutional Conference, consisting of Messrs. Clark, Christie, Taylor, and Reed be continued as an Advisory Committee to the delegate.

On motion, duly seconded, the Secretary was directed to communicate further with the Cleveland Association relative to the action of the Association in appointing a delegate, and request information as to the attitude of the Cleveland Association in this matter, as well as in that of the proposed conference, advising that Association that the Duluth Association desired to co-operate in the matter of the proposed conference, unless the Committee on Development of the Society could accomplish the same purpose.

The Secretary read a letter from Secretary Hunt relative to a resolution adopted by the Detroit Engineering Society on the subject of providing special instruction for women students for engineering positions, but no action was taken by the meeting.

A letter was read from Secretary Hunt referring to the resolution adopted by the Board of Direction on June 18th, 1918, relative to an annual visit to the Local Associations by the Director in that District or by the President or Secretary of the Society, and on motion, duly seconded, it was decided to extend a standing invitation by the Association for such visit.

The Secretary read a letter from Alfred D. Flinn, Secretary of Engineering Council, in further reference to his proposed Western trip, stating that his visit to Duluth would be from August 4th to 6th, 1918, inclusive. The Secretary reported that Mr. Flinn's letter had been referred to the Chairman of the Committee on the Proposed Engineers Club, with a view to having that Committee arrange for Mr. Flinn's entertainment. On motion, duly seconded, the Secretary's action was approved.

Mr. Hoyt, for the Committee on the Proposed Engineers Club, reported that plans for the organization of the Club were progressing satisfactorily, as well as the plans for the entertainment of Mr. Flinn.

A paper entitled "Engineering Unity", by Mr. James A. Lawrie, was presented by the author, and there was also brief discussion of previous papers presented by Messrs. Ayres and Woodbury.

Adjourned.

#### **Illinois Association, Organized 1916.**

A. S. Baldwin, President; Edgar S. Nethercut, Secretary-Treasurer, 705 Michigan Ave., Evanston, Ill.

The regular meetings of the Association are held on the second Monday of March, June, September, and December, the last being the Annual Meeting. The hour and place of meeting are not fixed, but this information will be furnished on application to the Secretary.



**Louisiana Association, Organized 1914.**

W. B. Gregory, President.

The regular meetings of the Association are held at The Cabildo, New Orleans, La., on the first Monday of January, April, July, and October.

**Nebraska Association, Organized 1917.**

George L. Campen, President; Homer V. Knouse, Secretary-Treasurer, 115 City Hall, Omaha, Nebr.

Regular meetings of the Association are held on the first Saturday of each month, except July and August, and at such places as may be appointed from time to time by the Executive Committee. The Annual Meeting is held in Lincoln, Nebr., on the second Friday in January.

An "Engineers' Round Table" is reserved daily for luncheons, at Courtenay's Restaurant, 17th and Douglas Streets, Omaha, to which all engineers are invited. Visiting members of the Society are especially urged to communicate with the Secretary when in the city.

**Northwestern Association, Organized 1914.**

P. E. Thian, President; Ralph D. Thomas, Secretary, 508 South First Street, Minneapolis, Minn.

The meetings of the Association are held by-monthly, alternating between St. Paul and Minneapolis, on the third Friday of each month. Information as to the time and place of such meetings will be furnished on application to the Secretary.

**Philadelphia Association, Organized 1913.**

Henry H. Quimby, President; C. W. Thorn, Secretary, 1313 South Broad Street, Philadelphia, Pa.

The regular meetings of the Association are held at the Engineers' Club of Philadelphia, 1317 Spruce Street, on the first Monday in January, April, and October, the last being the Annual Meeting.

(Abstract of Minutes of Meeting)

**July 8th, 1918.**—A special meeting of the Board of Direction of the Association was called to order at 5 P. M., at the Union League; President Henry H. Quimby in the chair; C. W. Thorn, Secretary; and present, also, Messrs. Richard L. Humphrey, W. L. Stevenson, and Samuel T. Wagner.

On motion, duly seconded, Mr. Richard L. Humphrey was elected to represent the Association on the Committee on Development of the American Society of Civil Engineers, in accordance with the resolution adopted by the Board of Direction of the Society at its meeting of June 18th, 1918.

Mr. Samuel T. Wagner was appointed Chairman of the Nominating Committee *re* Mr. E. B. Temple resigned.

On motion, duly seconded, it was decided not to fill the unexpired term of the late Edgar Marburg on the Board of Direction.

Mr. Henry T. Shelly was elected to fill the vacancy on the Board of Direction *re* Mr. John F. Murray resigned.

Mr. Wager Fisher was appointed as representative on the Publication Committee.

Mr. Quimby spoke relative to the adoption of new measures to liven up interest in the Association and its meetings, suggesting that speakers be obtained to give short talks on the functions of the Local Associations, to be followed by a general discussion of the subject, with the idea of bringing out the impressions of the Junior members as to what is lacking in the Association and its meetings.

Mr. Humphrey announced that he would obtain several "4-minute men", as speakers for the next regular meeting of the Association in October. The meeting will be advertised among the membership under the heading "Discussion of Position of the Engineer in the Community and the Value to the Engineer of the Association," in order that members may be prepared for discussion after the talks by the "4-minute men."

The following resolution was adopted:

*"Resolved:* That the Board of Direction of the Philadelphia Association of Members of the American Society of Civil Engineers, record with the deepest regret, the loss which they and the Engineering profession at large have sustained by the death of Edgar Marburg on June 27th, 1918.

*"As a member of the Board and a Vice-President since April, 1915, he was a most faithful worker and was always keenly alive to the best interests of the Society and the Association. His remarkable energy, enthusiasm and sincerity will always be remembered by those who were privileged to have been associated with him."*

Adjourned.

#### **Pittsburgh Association, Organized 1917.**

Richard Khuen, Jr., President; John D. Stevenson, Secretary-Treasurer, 1231 Monterey St., Pittsburgh, Pa.

The Annual Meeting of the Association is held on the first Monday in October. The time and place of other meetings are not fixed, but this information will be furnished on application to the Secretary.

#### **Portland, Ore., Association, Organized 1913.**

Philip H. Dater, President; C. P. Keyser, Secretary, 1147 East Yamhill Street, Portland, Ore.

(Abstract of Minutes of Meeting)

**May 8th, 1918.**—The meeting was called to order at the University Club, at 8 p. m.; President Dater in the chair; C. P. Keyser, Secretary; and present, also, 15 members.

The minutes of the meetings of the Association of February 15th, 1918, and of the Board of Directors of March 20th, 1918, were read and approved.

Communications from Charles Warren Hunt, Secretary of the Society, relative to the War Revenue Act of 1917, from the San Francisco Association in reference to active representation on the Nominating Committee of the Society, from the Cleveland Association relative to an open forum for the discussion of matters vital to the Society,

and from the American Association of Engineers in regard to delegates to its Convention to be held in Chicago, Ill., on May 14th, 1918, were read and ordered filed.

Several bills were presented and ordered paid.

On motion, duly seconded, the Secretary was instructed to write to Secretary Hunt, asking him to designate a method of procedure to insure active representation, for District No. 12, on the Nominating Committee at its next meeting, and the Board of Directors was named as a committee with power to act in the matter on receipt of reply from Mr. Hunt.

On motion, duly seconded, the Board of Directors was empowered to name a delegate to the conference, proposed by the Cleveland Association, in the interest of a more democratic control of the Society.

The matter of delegates to the Convention of the American Association of Engineers in Chicago, as well as the questionnaire from that Association, was, on motion, duly seconded, ordered laid on the table.

President Dater presented a request from Maj. H. C. Boyden, of San Francisco, Cal., that the Association obtain and compile certain information relative to the military records of the Portland District.

On motion, duly seconded, a committee of three, consisting of Messrs. Mason, Reed, and Randlett, was appointed, first, to investigate existing military records, and, second, if the required information was found, to deliver it to the Government.

The question of the registration of technical men was taken up and discussed. On motion, duly seconded, the matter was put in the hands of the President, and the Committee was discharged.

The Secretary was instructed, by order of the President, to send out notices for the collection of \$2.50 for dues for 1918.

It was suggested that the Chairman of the Programme Committee might try to arrange for an excursion to Vancouver Barracks.

The Secretary's "stirring" letter to the membership was taken up, but, owing to the lateness of the hour, the discussion was postponed until May 22d, 1918.

Adjourned.

**St. Louis Association, Organized 1888 (Constitution Approved by Board, 1914).**

J. A. Ockerson, President; C. M. Daily, Secretary-Treasurer, 34 East Grand Avenue, St. Louis, Mo.

The Annual Meeting of the Association for the election of officers and for the transaction of business, is held on the fourth Monday in November. Two meetings each year, for the presentation and discussion of technical papers, are held in the Auditorium of the Engineers Club of St. Louis and are open to members of the Associated Societies. Other "get-together" meetings are held regularly for dinner or luncheon on the fourth Monday of each month except July, August, and November.

## (Abstract of Minutes of Meeting)

**July 1st, 1918.**—The meeting was called to order at the City Club at 12.30 p. m.; President Ockerson in the chair; C. M. Daily, Secretary; and present, also, 29 members and guests.

President Ockerson read the preamble and resolutions relative to the organization of the Committee on Development of the American Society of Civil Engineers adopted by the Board of Direction of the Society at its meeting of June 18th, 1918, as well as a letter from Secretary Hunt pertaining to the matter.

After discussion of the subject, motion was made and carried that nominations by ballot for member and alternate member of the Committee be made, it having been explained that this Committee is to report on the purposes, field of work, scope of activity and usefulness, organization and methods of work of the Society, and to make recommendations concerning these matters to the Board of Direction not later than November 1st, 1918.

It was decided, on motion, duly seconded, that the two men receiving the highest number of votes should be placed on the ballot (the highest for member and the next highest for alternate member), and the ballot mailed to all members of the Association with instructions to prepare and return it to the Secretary before July 15th, 1918.

Two ballots were cast, twelve nominations being made on the first one. On the second ballot, the names of the five men receiving the highest number of votes on the first one, were voted on, with the result that Messrs. Baxter L. Brown and J. W. Woermann were elected as nominees for membership on the Committee, and the Secretary was instructed to prepare and send out the letter and ballots.

On motion, duly seconded, the Association endorsed the resolution of the Detroit Section of the American Society of Mechanical Engineers and the Detroit Engineering Society in joint session on May 3d, 1918, with regard to providing special instruction open to women students to enable them to fill engineering positions.

Adjourned.

**San Diego Association, Organized 1915.**

N. B. Kellogg, President; P. R. Watson, Secretary-Treasurer, *pro tem.*, County Surveyor's Office, San Diego, Cal.

**Seattle Association, Organized 1913.**

A. S. Downey, President; Phil. A. Franklin, Secretary, Care, City Engineer's Office, County-City Building, Seattle, Wash.

The regular monthly meetings and luncheons of the Association are held at the Frye Hotel, 3d Avenue and Yesler Way, at 12.15 p. m., on the last Monday of each month. All members in any grade, of the American Society of Civil Engineers are cordially invited to attend the meetings when in the vicinity.

**Southern California Association, Organized 1914.**

Louis C. Hill, President; H. W. Dennis, Secretary, Edison Building, Los Angeles, Cal.

The Southern California Association of Members of the American Society of Civil Engineers (Los Angeles, Cal.) holds regular bi-monthly

meetings with banquet, at Hotel Clark, on the second Wednesday of February, April, June, August, October, and December, the last being the Annual Meeting of the Association.

Informal luncheons are held at 12.15 P. M., every Thursday and the place of meeting may be ascertained from the Secretary.

The by-laws of the Association provide for the extension of hospitality to any member of the Society who may be temporarily in Los Angeles, and any such member will be gladly welcomed as a guest at any of the meetings or luncheons.

#### **Spokane Association, Organized 1914.**

Peter Mogensen, President; Charles E. Davis, Secretary, City Engineer's Office, Spokane, Wash.

The regular meetings of the Association are held on the second Friday of each month, except July and August. The hour and place of meeting are not fixed, but this information will be furnished on application to the Secretary.

Visiting members are invited to attend the meetings and luncheons.

#### **Texas Association, Organized 1913.**

R. C. Gowdy, President; J. H. Brillhart, Secretary, Care, Mosher Mfg. Co., Dallas, Tex.

##### **(Abstract of Minutes of Meetings)**

**May 10th, 1918.—10.30 A. M.**—The first session of the Semi-Annual Meeting of the Association was called to order in the Engineering Building of the Texas Agricultural and Mechanical College, at College Station; R. J. Potts in the chair; J. H. Brillhart, Secretary.

The minutes of the previous meeting were read and approved.

Prof. J. C. Nagle read a letter of welcome to the Association from Dr. Bizzell, President of the College, who was unable to attend, and addresses were made by Dean Puryear, C. H. Chamberlin, and Col. W. A. Poage.

The Treasurer made a verbal report.

The Secretary reported in reference to the action taken by the Association relative to securing a representative on the Nominating Committee of the Society from District No. 11, and also in the matter of the "Excess Profits Tax on Incomes of Engineers", as supported by the Board of Direction of the Society. On motion, duly seconded, the Association endorsed the action of the Board of Direction on this question.

Adjourned.

**2.15 P. M.**—The meeting was called to order.

On motion, duly seconded, the regular order of business was set aside for the reading of a paper by Prof. R. M. Green, entitled "Experiments on Asphalt Pavements in Various Cities of Texas." A paper by Mr. J. F. Witt, entitled "Some Experiments in Bituminous Surface Treatment on Portland Cement Concrete for Public Highways", was read by Professor R. L. Morrison. These papers were



discussed by Messrs. Davis, Bartlett, Nagle, Howell, Morrison, and Potts.

Adjourned.

**8.15 P. M.**—After a visit by the members to the Testing Laboratory, and witnessing a military drill on the field, followed by supper in the Mess Hall, as guests of the Local Members, the meeting was again called to order.

Papers by Prof. F. E. Giesecke on "Tests on Reinforcing Concrete" and by Prof. S. P. Finch on "Tests on Concrete Formed of Tough Rock for the War Department", were presented by the authors and discussed by Messrs. Davis, Ritchie, and Eliot.

A paper by Mr. C. M. Davis, entitled "Designing", was also presented by the author.

Adjourned.

**May 11th, 1918.—8.30 A. M.**—After a visit by the members to the Experiment Station, the Textile Plant, and the Aero Mechanics Workshop, the meeting was called to order; President R. C. Gowdy in the chair; J. H. Brillhart, Secretary.

A communication from the Cleveland Association relative to a Joint Association Constitutional Conference was read, and, after some discussion, it was decided, on motion, duly seconded, that the invitation of the Cleveland Association to the Conference be accepted and a delegate and alternate appointed. Mr. Gowdy was appointed as delegate and Mr. Brillhart as alternate.

A report from the Legislative Committee was read, and, on motion, duly seconded, was accepted as a Progress Report.

A letter from Mr. Von Zuben, expressing appreciation of the flag presented to the 111th Engineers, was read.

Messrs. F. W. Chappell and J. Olsen were elected to membership.

On motion, duly seconded, a vote of thanks was tendered to the local members for the hospitality and courtesies extended to the members of the Association during the meeting.

Adjourned.

There were present at the meetings 15 members and 8 guests, as well as many students of the Texas Agricultural and Mechanical College.

The following members of the Texas Association are in active Military Service: Messrs. E. B. Cushing, T. L. Fountain, John B. Hawley, W. J. Powell, and E. E. Woodward, and Messrs. J. C. Nagle, H. E. Elrod, R. L. Morrison, and F. A. Jones are on the Reserve List.

#### **Utah Association, Organized 1916.**

George L. Swendsen, President; H. S. Kleinschmidt, Secretary-Treasurer, 306 Dooly Building, Salt Lake City, Utah.

The Annual Meeting of the Association is held on the first Wednesday in April. The time of other meetings is not fixed, but this information will be furnished on application to the Secretary.

**PRIVILEGES OF ENGINEERING SOCIETIES  
EXTENDED TO MEMBERS OF THE  
AMERICAN SOCIETY OF CIVIL ENGINEERS**

Members of the American Society of Civil Engineers will be welcomed by the following Engineering Societies, both to the use of their Reading Rooms, and at all meetings:

- American Institute of Electrical Engineers**, 25 West Thirty-ninth Street, New York City.
- American Institute of Mining Engineers**, 25 West Thirty-ninth Street, New York City.
- American Society of Mechanical Engineers**, 25 West Thirty-ninth Street, New York City.
- Asociación de Ingenieros y Arquitectos de Mexico**, Avenida Juarez, 12, City of Mexico, Mexico.
- Associação dos Engenheiros Civis Portuguezes**, Lisbon, Portugal.
- Australasian Institute of Mining Engineers**, Melbourne, Victoria, Australia.
- Boston Society of Civil Engineers**, 715 Tremont Temple, Boston, Mass.
- Brooklyn Engineers' Club**, 117 Remsen Street, Brooklyn, N. Y.
- Civil Engineers' Society of St. Paul**, Public Library, St. Paul, Minn.
- Cleveland Engineering Society**, Chamber of Commerce Building, Cleveland, Ohio.
- Cleveland Institute of Engineers**, Middlesbrough, England.
- Dansk Ingeniorforening**, Amaliegade 38, Copenhagen, Denmark.
- Detroit Engineering Society**, Detroit Board of Commerce Building, Detroit, Mich.
- Engineering Association of Nashville**, Commercial Club Building, Nashville, Tenn.
- Engineering Association of New South Wales**, 5 Elizabeth Street, Sydney, New South Wales, Australia.
- Engineering Institute of Canada**, 176 Mansfield Street, Montreal, Que., Canada.
- Engineering Societies Club of Hawaii**, E. F. Cykler, Secretary, Honolulu, Hawaii.
- Engineers and Architects Association of Southern California**, 405 Hosfield Bldg., Los Angeles, Cal.
- Engineers and Architects Club of Louisville**, 1412 Starks Building, Louisville, Ky.
- Engineers' Club of Baltimore**, 6 West Eager Street, Baltimore, Md.
- Engineers' Club of Kansas City**, Robert S. Beard, Secretary, Third Floor, City Hall, Kansas City, Mo.
- Engineers' Club of Minneapolis**, 17 South Sixth Street, Minneapolis, Minn.

- Engineers' Club of Philadelphia**, 1317 Spruce Street, Philadelphia, Pa.
- Engineers' Club of St. Louis**, 3817 Olive Street, St. Louis, Mo.
- Engineers' Club of Toronto**, 96 King Street, West, Toronto, Ont., Canada.
- Engineers' Club of Trenton**, Trent Theatre Building, 12 North Warren Street, Trenton, N. J.
- Engineers' Society of Northeastern Pennsylvania**, 415 Washington Avenue, Scranton, Pa.
- Engineers' Society of Pennsylvania**, 31 South Front Street, Harrisburg, Pa.
- Engineers' Society of Western Pennsylvania**, 568 Union Arcade Building, Pittsburgh, Pa.
- Florida Engineering Society**, J. R. Benton, Secretary, Gainesville, Fla.
- Institute of Marine Engineers**, The Minories, Tower Hill, London, E., England.
- Institution of Civil Engineers**, Great George Street, Westminster, S. W., London, England.
- Institution of Engineers of the River Plate**, Calle 25 de Mayo 195, Buenos Aires, Argentine Republic.
- Institution of Mechanical Engineers**, 11 Great George Street, London, S. W. 1., England.
- Institution of Naval Architects**, 5 Adelphi Terrace, London, W. C., England.
- Junior Institution of Engineers**, 39 Victoria Street, Westminster, S. W., London, England.
- Koninklijk Institut van Ingenieurs**, The Hague, The Netherlands.
- Louisiana Engineering Society**, State Museum Building, Chartres and St. Ann Streets, New Orleans, La.
- Memphis Engineers' Club**, Memphis, Tenn.
- Midland Institute of Mining, Civil and Mechanical Engineers**, Sheffield, England.
- Montana Society of Engineers**, Butte, Mont.
- North of England Institute of Mining and Mechanical Engineers**, Newcastle-upon-Tyne, England.
- Oregon Society of Civil Engineers**, Portland, Ore.
- Pacific Northwest Society of Engineers**, 803 Central Building, Seattle, Wash.
- Rochester Engineering Society**, Rochester, N. Y.
- Sociedad Colombiana de Ingenieros**, Bogota, Colombia.
- Sociedad de Ingenieros del Peru**, Lima, Peru.
- Societe des Ingenieurs Civils de France**, 19 rue Blanche, Paris, France.

**Society of Engineers**, 17 Victoria Street, Westminster, S. W., London, England.

**Southwestern Society of Engineers**, C. E. Banglebaugh, Secretary, 703 First National Bank Building, El Paso, Tex.

**Svenska Teknologforeningen**, Brunkebergstorg 18, Stockholm, Sweden.

**Tekniske Forening**, Vestre Boulevard 18-1, Copenhagen, Denmark.

**Vermont Society of Engineers**, George A. Reed, Secretary, Montpelier, Vt.

**Western Society of Engineers**, 1735 Monadnock Block, Chicago, Ill.

## ACCESSIONS TO THE ENGINEERING SOCIETIES LIBRARY

(From May 1st to August 1st, 1918)

### DONATIONS \*

The statements made in these notices are taken from the books themselves, and this Society is not responsible for them.

#### GENERAL LECTURES ON ELECTRICAL ENGINEERING.

By Charles Proteus Steinmetz. 5th ed. Compiled and Edited by Joseph LeRoy Hayden. N. Y., McGraw-Hill Book Company, Inc.; Lond., Hill Publishing Company, 1918. 242 pp., 50 illus., 1 por., 1 tab., 9 x 6 in., cloth. \$2.50.

A series of descriptive, non-mathematical lectures on the problems of the generation, control, transmission, distribution, and utilization of electric energy. The present edition has been largely rewritten to include the changes that have taken place in the electrical industry during the last eight years.

#### STANDARD WIRING FOR ELECTRICAL LIGHT AND POWER:

As Adopted by the Fire Underwriters of the United States, in Accordance with This Year's Edition of the National Electrical Code, with Explanations, Illustrations, and Tables Necessary for Outside and Inside Wiring and Construction for All Systems, Together with a Special Section on House Wiring. By H. C. Cushing, Jr. N. Y., H. J. Cushing, Jr. (copyright 1918). 360 pp., 4 illus., 21 diag., 37 tab., 7 x 4 in., flexible cloth.

This edition of the essential rules and requirements for safe and efficient wiring and construction for electric heat, light, and power, follows the plan adopted in former editions, but has been revised to meet present requirements.

#### GLOSSAIRE (ANGLAIS-FRANCAIS) DES TERMES

Et Locutions Electrotechniques les Plus Usités. Compilé par Aristide Filiatreault. Montreal, M. J. Filiatreault, 1913. 59 pp., 7 x 4 in., paper.

A moderately priced English-French electrical dictionary of pocket size.

#### HOW TO SELL ELECTRICAL LABOR-SAVING APPLIANCES;

119 Tested Plans for the Electric Store. Compiled by *Electrical Merchandising*. N. Y., McGraw-Hill Book Company, Inc.; Lond., Hill Publishing Company, Ltd., 1918. 115 pp., 15 illus., 13 pl., 8 x 5 in., one-half cloth. \$1.00.

A manual for dealers in electrical supplies and fixtures, suggesting methods for displaying stock, advertising, training clerks, etc.

#### DIGEST OF PUBLICATIONS OF BUREAU OF STANDARDS

On Electrolysis of Underground Structures Caused by the Disintegrating Action of Stray Electric Currents from Electric Railways. Prepared by Samuel S. Wyer. 1918. 96 pp., 10 x 7 in., paper. (Gift of the Author.)

Summarizes, by verbatim quotations, the essentials of the extensive laboratory and field investigations on this subject which the Bureau of Standards has published up to August 22d, 1916. The quotations selected have been classified, and the compiler has added editorial notes. Copies may be procured from the Bureau of Standards, Washington, D. C.

\* Unless otherwise specified, books in this list have been donated by the publishers.



**HOW TO BECOME A WIRELESS OPERATOR:**

A Practical Presentation of the Theory of Electrical Waves, Their Propagation, and Their Adaptation to Wireless Communications, Including Simple and Clear Instructions How to Operate Wireless Devices and How to Comply with Government Requirements for Operators. By Charles B. Hayward. Chic., American Technical Society, 1918. 21 + 298 pp., 196 illus., 1 pl., 9 tab., 8 x 6 in., cloth.

This work does not discuss the history nor the mathematics of radiotelegraphy. It is intended for those wishing to become proficient operators, and is designed for individual study.

**WOODEN SHIPBUILDING:**

A Comprehensive Manual for Wooden Shipbuilders to Which is Added a Masting and Rigging Guide. Compiled by W. J. Thompson. Chic., A. C. McClurg & Co., 1918. 202 pp., 2 tab., 7 x 5 in., flexible cloth. \$2.50.

A book of pocket size, compiled from standard authorities, which is intended chiefly as a glossary of the parts of ships and their rigging, with brief descriptions of the methods of construction, arranged in dictionary form. Contents: Wooden Ships; Masts and Rigging; Methods of Masting; Tables of Rigging.

**A TEXT-BOOK OF LAYING OFF:**

Or, The Geometry of Shipbuilding. By Edward L. Attwood and I. C. G. Cooper. 2d ed. Lond. and N. Y., Longmans, Green and Co., 1918. 123 pp., 121 illus., 2 pl. (1 folded), 9 x 6 in., cloth. \$2.00.

This work is intended to provide students of naval architecture and ship draftsmen with a description of the processes and methods used in various shipbuilding yards and centers. The second edition has been revised with a view to greater clearness, and some additions have been made to the text.

**MACHINE DESIGN:**

A Manual of Practical Instruction in Designing Machinery for Specific Purposes, Including Specifications for Belts, Screws, Pins, Gears, etc., and Many Working Hints as to Operation and Care of Machines. By Ernest L. Wallace. Chic., American Technical Society, 1918. 12 + 157 pp., 90 illus., 2 pl., 9 tab., 8 x 6 in., cloth.

A simple treatment of the subject, adapted for home study and intended for use by machinists, draftsmen, and apprentices.

**ELEMENTS OF MACHINE DESIGN.**

By Henry L. Nachman. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 244 pp., 275 illus., 22 tab., 9 x 6 in., cloth. \$2.00.

A class-room text on the subject of elementary machine design, for students in technical institutes.

**PRINCIPLES OF MECHANISM.**

By Walter H. James and M. C. Mackenzie. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 241 pp., 246 illus., 8 x 5 in., cloth. \$1.50.

Presents the elementary principles of mechanism without the use of advanced mathematics. Intended especially for trade schools, etc.

**THE MODEL T FORD CAR;**

Truck and Tractor Conversion Sets. Also Genuine Ford Farm Tractor Construction, Operation, and Repair. By Victor W. Pagé. N. Y., The Norman W. Henley Publishing Co., 1918. 312 pp., 106 illus., 1 folded pl., 8 x 5 in., cloth. \$1.00.

This book is a complete practical treatise, explaining the operating principles of all parts of the Ford automobile, with complete instructions for driving and maintenance, every phase of the subject being treated in a non-technical, yet comprehensive manner.

**THE AUTOMOBILE REPAIRMAN'S HELPER:**

A Pocket Book for the Mechanic, Owner, Chauffeur, and Student, Covering Every Trouble Likely to be Found in All the Standard Cars and Including Chapters on Inspection and Lubrication; Drills, Taps and Lathes; Welding; Storage Batteries; Cylinder and Piston Ring Work; Bearings; Axle Adjustments; Repairing Tops, Mudguards, Lamps, etc. By S. T. Williams. N. Y., U. P. C. Book Company, Inc. (copyright 1918). 438 pp., 322 illus., 5 x 7 in., flexible cloth. \$2.50.

The object of the compiler has been to give the best method of doing each particular job of repairing and also to explain the proper sequence in which the various operations should be done.

**AUTOMOBILE CONSTRUCTION AND REPAIR;**

A Practical Guide to the Design, Construction, and Repair of Automobile Mechanisms. By Morris A. Hall. Chic., American Technical Society, 1918. 711 pp., 568 illus., 4 pl., 4 tab., 8 x 6 in., flexible leather. \$2.50.

Intended for mechanics engaged in automobile construction and repair. Describes the construction of the standard types of transmission, clutches, valves, etc., and gives methods for repairing the troubles that occur in operation.

**THE MODERN GASOLINE AUTOMOBILE:**

Its Design, Construction, Operation and Maintenance: A Practical, Comprehensive Treatise Explaining all Principles Pertaining to Gasoline Automobiles and Their Component Parts. By Victor W. Pagé. 1918 edition, rev., enl., and reset. N. Y., The Norman W. Henley Publishing Co., 1918. 1 032 pp., 1 000 illus., 11 charts (9 folded), 9 x 6 in., cloth. \$3.00.

This edition has been brought to date by careful revision and the introduction of supplementary matter on ignition, tractors, power transmission, carburetion, etc. The book, it is stated, is the most up-to-date treatise on gasoline automobiles ever published, every phase of the subject being treated in a practical, non-technical manner.

**DYKE'S AUTOMOBILE AND GASOLINE ENGINE ENCYCLOPEDIA:**

Treating on the Construction, Operation, and Repairing of Automobiles, and Gasoline Engines. Also Trucks, Tractors, Airplanes and Motorcycles. By A. L. Dyke. 7th ed., rev. and enl. St. Louis, A. L. Dyke (copyright 1918). 864 pp., illus., charts, tab., cloth, 10 x 7 in. \$3.50.

Presents in clear, simple, concise form the principles on which gasoline engines and automobiles are built and operated. Sections are included on repairing, adjusting, and driving, together with much miscellaneous information of value to automobile engineers and drivers. This edition also includes 515 charts, inserts, dictionary, etc., as well as supplements on the Ford and Packard machines, and on airplanes. More than 3 000 illustrations accompany the text.

**TIRE MAKING AND MERCHANDISING:**

A Book of Facts Concerning Manufacturing Processes, Illustrating the Principal Tire Types, Rims, and Non-skid Treads, with Chapters on Rubber and Other Factors Governing Tire Costs, Present and Future Trend of the Market, Merchandising for Profit, Dividends from Service, Marketing Methods and Sales Campaigns, Tire Equipment of All Pleasure and Commercial Cars from 1913 to Present Date, and a Dealers' Dictionary of Terms. By F. R. Goodell. N. Y., U. P. C. Book Company, 1918. 222 pp., 42 illus., 6 tab., maps, 7 diag., 8 x 5 in., flexible cloth. \$2.00.

A compact summary of information on tire manufacture, marketing, and merchandising, designed especially for those engaged in the tire business.

**AMERICAN LUBRICANTS;**

From the Standpoint of the Consumer. By L. B. Lockhart. Easton, Pa., The Chemical Publishing Co.; Lond., Williams & Norgate; Tokyo, Maruzen Co., Ltd., 1918. 10 + 236 pp., 13 illus., 44 tab., 9 x 6 in., cloth. \$2.00.

The purpose of this book is to aid the user of lubricants in the intelligent selection of oils and greases, by giving the facts and figures of value to him and excluding all irrelevant matters. Contents: Crude Petroleum; The Refining of Petroleum; The Refined Products; Friction and Lubrication; Lubrication of Internal Combustion Engines; Automobile Lubrication; The Lubrication of Electrical Machinery; The Lubrication of Steam Cylinders and Steam Engines; The Lubrication of Steam Railways; The Lubrication of Cotton Mills and Other Textile Mills; The Lubrication of Miscellaneous Plants and Machines; Physical Methods of Testing Lubricating Oils; Chemical Methods of Testing Lubricating Oils; Lubricating Greases; Methods for Testing and Analysis of Greases; Animal and Vegetable Oils; Methods of Testing Fatty Oils; Specifications for Fatty Oils; Specifications for Cylinder Oils; Specifications for Special Engine and Machine Oils and Car Oils; Specifications for Cutting Oils; Specifications for Greases; Graphite; Boiler Compound and Cotton Waste; Specifications for Burning Oils; Specifications for Gasoline and Fuel Oil; Gasolines; Kerosene; Tables.

**THE CYANIDE PROCESS;**

Its Control and Operation. By A. W. Fahrenwald. N. Y., John Wiley and Sons, Inc.; Lond., Chapman and Hall, Ltd., 1918. 10 + 256 pp., 37 illus., 1 folded pl., 1 folded chart, 27 tab., 7 x 4 in., flexible cloth. \$2.00.

The object of the book is to furnish a laboratory guide, both for investigating a new ore and for conducting the laboratory of a mill, which will include the latest developments of the process and be sufficiently complete for ordinary needs.

**THE CHEMICAL ANALYSIS OF IRON:**

A Complete Account of All the Best Known Methods for the Analysis of Iron, Steel, Pig-iron, Alloy Metals, Iron Ore, Limestone, Slag, Clay, Sand, Coal and Coke. By Samuel Alexander Blair. 8th ed. Phila. and Lond., J. B. Lippincott Company (copyright 1918). 318 pp., 102 illus., 2 tab., 9 x 6 in., cloth. \$5.00.

In preparing the eighth edition of this well-known handbook, the entire work has been recast and the text largely rewritten to include the recent improved methods.

**ELECTRIC FURNACES IN THE IRON AND STEEL INDUSTRY.**

By W. Rodenhauer, J. Schoenawa, and C. H. Vom Bauer. Translated from the Original by the Latter and now Completely Rewritten. 2d ed. N. Y., John Wiley & Sons; Lond., Chapman & Hall, Ltd., 1917. 18 + 429 pp., 134 illus., 2 pl., 24 tab., 9 x 6 in., cloth. \$3.75.

A review of the electric furnaces utilized in iron smelting, and of the processes used. The present edition contains minor revisions covering certain changes since 1913.

**METAL STATISTICS, 1918.**

11th Annual Edition. N. Y., The American Metal Market Co. (copyright 1918). 427 pp., 6 x 4 in., cloth. 50 cents.

Tables showing production, prices, imports, exports, etc., of iron ore, coke, iron and steel products, copper, tin, lead, spelter, aluminum, antimony, silver, and other metals. The statistics usually cover a number of years.

**MILITARY OBSERVATION BALLOONS (CAPTIVE AND FREE):**

A Complete Treatise on Their Manufacture, Equipment, Inspection, and Handling, with Special Instructions for the Training of a Field Balloon Company. By Emil J. Widmer. N. Y., D. Van Nostrand Co., 1918. 151 pp., 38 illus., 3 pl. (2 folded), 8 x 5 in., flexible cloth. \$3.00.

This manual is based on the balloon manual of the German army, and the equipment and drill in use by the Germans at the beginning of the war. It gives a complete survey of the field.

**TOPOGRAPHY AND STRATEGY IN THE WAR.**

By Douglas Wilson Johnson. N. Y., Henry Holt and Company, 1917. 11 + 211 pp., 33 pl., 18 maps, 9 x 6 in., cloth. \$1.75.

The author's objects have been to emphasize the effect played by land forms in plans of campaign and movements of armies in the great war, and to place before the reader a picture of each theatre of war that will enable him to follow with intelligence the movements of the troops.

**THE FIGHTING ENGINEERS:**

The Minute Men of Our Industrial Army. By Francis A. Collins. N. Y., The Century Co., 1918. 220 pp., 31 pl., 8 x 5 in., cloth. \$1.30.

A popular account of the work of the American engineering regiments in France and America.

**DIRECT COSTS OF THE PRESENT WAR.**

By Ernest L. Bogart. The Early Effects of the European War upon the Finance, Commerce, and Industry of Chile. By L. S. Rowe. (Carnegie Endowment for International Peace, Div. of Economics and History. Preliminary Economic Studies of the War.) N. Y., Oxford University Press, 1918. 10 x 7 in., paper. (Gift of the Carnegie Endowment for International Peace.)

These two pamphlets, belonging to a series of economic studies of the effects of the European War, undertaken by the Carnegie Endowment for International Peace, discuss two phases of the question. Prof. Bogart's summary of the cost of the war to each participant covers only the direct financial outlays of the Governments, compiled from the best available reports. Dr. Rowe gives an account of the immediate effects of the war in the period of the fall of 1914 and the spring of 1915, based on a personal investigation during the latter year.

**INTERNATIONAL MINING LAW.**

By Theo. F. Van Wagenen. N. Y., McGraw-Hill Book Company, Inc.; Lond., Hill Publishing Company, Ltd., 1918. 342 pp., 7 x 5 in., flexible cloth. \$3.50.

Starting with an account of ancient mining laws and customs, the author gives a digest of the present mining laws of the world. Statistics of production in the leading countries are given in order to show the effect of various laws on the industry, and there are discussions of different features of the laws. The subject-matter is confined to metal mining; the laws having to do with coal, iron, and non-metals are omitted.

**NORTHWEST MINES HANDBOOK:**

A Reference Work of the Mining Industry of Idaho, Washington, British Columbia, Western Montana, and Oregon. By Sidney Norman. Vol. I. Spokane, Wash., Sidney Norman, 1918. 366 pp., 28 illus., 9 por., 2 maps (1 folded), 13 tab., 10 x 6 in., cloth. \$5.00.

Covers the mining enterprises which surround Spokane. Contains general descriptive articles on mining and geology of each State, statistics of production, and gives lists of mines and mining corporations, showing capital stock, property, and development.

**THE COAL CATALOG:**

Combined with *Coal Field Directory* for the Year 1918, Containing Explanatory Articles on Rank, Usage, Analysis, Geology, Storage, and Preparation of Coals, Together with a Typical Section of the Productive Formations of Each Coal Mining State in the Union; Maps Showing the Various Mining Districts or Fields; Description of the Seams Mined; Lists of Mines Operating in the Various Seams, Including Name of Company; List of Seams Producing Coal Suitable for Each Industrial Purpose, etc., and a Directory of All the Coal Mines in the United States. Pittsburgh, Keystone Consolidated Publishing Company, Inc. (copyright 1918). 671 pp., 90 illus., 25 maps, 12 x 9 in., cloth. \$25.00.

A remarkably complete compendium on the coal industry of the United States and Canada, in which is collected the information needed by producers and users.

**POPULAR OIL GEOLOGY.**

By Victor Ziegler. Golden, Colo., C. H. Merrifield, 1918. 149 pp., 62 illus., 1 pl., 7 x 5 in., flexible cloth. \$2.50.

An exposition of the fundamental principles of oil geology, intended for men without technical training, who are interested in the subject.

**MY REMINISCENCES.**

By Raphael Pumpelly. 2 Vol. N. Y., Henry Holt and Co., 1918. 844 pp., 57 pl., 24 por., 13 maps, 9 x 6 in., cloth. \$7.50.

Born in 1837, the author studied geology and mining engineering in Paris and Freiburg, and later led a busy life as a geologist, mining engineer, and explorer for more than half a century. His professional activities in Asia and America provided an abundance of information on these lands and many adventures and anecdotes, which are presented in an interesting fashion in this autobiography.

**MODERN MANAGEMENT APPLIED TO CONSTRUCTION.**

By Daniel J. Hauer. N. Y., McGraw-Hill Book Company, Inc.; Lond., Hill Publishing Company, Ltd., 1918. 10 + 194 pp., 19 illus., 1 folded chart, 9 x 6 in., cloth. \$2.50.

Describes the application of the principles of scientific management to engineering and architectural construction, in the light of the author's experience. An appendix outlines the American and Canadian organizations for war construction.

**SCIENTIFIC MANAGEMENT:**

A History and Criticism. By Horace Bookwalter Drury. 2d ed., rev. (Studies in History, Economics and Public Law; Edited by the Faculty of Political Science of Columbia University. Vol. 65, No. 2. Whole number 157.) N. Y., Columbia University, 1918. 251 pp., 10 x 6 in., paper. \$2.00. (Gift of Longmans, Green and Co.)

A history of the origins and development of scientific management, with a critical review of its important aspects. Brief biographies of the leaders in the movement are given, and its relation to labor is discussed. The second edition has been largely extended and revised. The statements have been brought down to date, and the conclusions have been rewritten in a number of cases.



**THE TAYLOR SYSTEM IN FRANKLIN MANAGEMENT:**

Application and Results. By Maj. George D. Babcock, in Collaboration with Reginald Trauttschold, with a Foreword by Carl G. Barth. (Industrial Management Library.) N. Y., The Engineering Magazine Company, 1917. 20 + 245 pp., 24 illus., 4 folded charts, 9 x 6 in., cloth. \$3.00.

A step-by-step description of the introduction and application of the Taylor system of management in the automobile factory of the H. H. Franklin Manufacturing Company, with an account of the results obtained during the five years that the system has been in use.

**HIRING THE WORKER.**

By Roy Willmarth Kelly. (Industrial Management Library.) N. Y., The Engineering Magazine Co., 1918. 245 pp., 8 pl., 66 forms, 5 charts (2 folded), 2 tab., 9 x 6 in., cloth. \$2.00.

A summary of the efforts of many firms to solve the problems of employment. Describes the theories and policies which have been tested, suggests the possibilities of employment management and attempts to point out the profitable avenues of advancement.

**THE EMPLOYMENT DEPARTMENT AND EMPLOYEE RELATIONS.**

By F. C. Henderschott and F. E. Weakly. Chic., La Salle Extension University (copyright 1918). 60 pp., 20 illus., 4 tab., 9 x 6 in., paper.

This book contains suggestions based on methods in use by various corporations. The Contents are: Selection of the Employee; The Labor Supply; Promotions and Transfers; Progressive Scale of Promotion Based on General Intelligence Requirements; Employee Records as a Basis for Promotion; Annual Survey of Employees; The Principle of Transfer; The Vocational Laboratory; Job Analysis; Labor Turn-over; Educational and Welfare Work.

**INDUSTRIAL RECONSTRUCTION;**

A Symposium on the Situation After the War and How to Meet It. Edited by Huntly Carter. N. Y., E. P. Dutton and Co., 1918. 16 + 295 pp., 7 x 5 in., cloth. \$2.00.

Contains the results of an inquiry undertaken to ascertain the opinions held by a large number of distinguished English men and women as to the probable industrial situation in Great Britain after the war and the best policy to be pursued by Labor, Capital, and the State. The views of statesmen, capitalists, labor leaders, economists, and others are included.

**AN INTRODUCTION TO STATISTICAL METHODS:**

A Textbook for College Students; A Manual for Statisticians and Business Executives. By Horace Secrist. N. Y., The Macmillan Company, 1917. 21 + 482 pp., 28 pl., 95 tab., 8 x 5 in., cloth. \$2.00.

A study of the principles governing the collection, analysis, and synthetic treatment of numerical data, intended to supply the need for a fundamental treatment of the methods of statistical investigation and interpretation. The methods discussed are of general application, and are accompanied by illustrations drawn chiefly from economic and business fields. The treatment is non-mathematical.

**ANALYSIS OF FINANCIAL STATEMENTS.**

By Richard P. Wilson and Harry J. Carpenter. Chic., La Salle Extension University (copyright 1918). 38 pp., 4 illus., 9 x 6 in., paper.

Describes the methods and principles of these analyses, illustrating them by typical examples.

**THE FINANCING OF PUBLIC SERVICE CORPORATIONS.**

By Milton B. Ignatius. N. Y., The Ronald Press Company, 1918. 18 + 508 pp., 9 x 6 in., cloth. \$5.00.

This volume presents a comprehensive discussion of all the important aspects of public service corporation financing from the inception of the enterprise to the expenditure of the proceeds. Intended for corporation officials, public officers, and bankers and brokers. Based on the work of the Public Service Commission of the Second District of New York.

**BOOKKEEPING AND COST ACCOUNTING FOR FACTORIES.**

By William Kent. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 261 pp., illus., forms, tab., cloth, 11 x 8 in. \$4.00.

The author has aimed to prepare a systematic treatise on cost accounting, which will start the student with the elementary principles of double-entry bookkeeping and lead him through factory accounting to cost accounting, giving him not only the fundamental theory in accordance with the views of the ablest modern accountants, but also warning him against the time-worn fallacies of the older school. Specific applications of the text to various industries are included.

**A HISTORY OF CHEMISTRY.**

By F. J. Moore. N. Y., McGraw-Hill Book Co., Inc.; Lond., Hill Publishing Co., Ltd., 1918. 14 + 292 pp., 6 illus., 12 pl., 37 por., 8 diag., 5 tab., 8 x 6 in., cloth. \$2.50.

This volume is based on a course of lectures given to the senior students of chemistry in the Massachusetts Institute of Technology, and is intended to provide a concise account of those facts and influences which have made the science what it is to-day. Suitable for mature students.

**A TEXT-BOOK OF INORGANIC CHEMISTRY.**

Edited by J. Newton Friend. Vol. V: Carbon and Its Allies, by R. M. Caven. Lond., Charles Griffin & Co., Ltd.; Phila., J. B. Lippincott Co., 1917. 21 + 468 pp. 15 illus., 70 tab. (1 folded), 1 chart, 9 x 6 in., cloth. (Gift of J. B. Lippincott Co.)

The aim of this series is to provide a comprehensive text-book of inorganic chemistry, sufficiently complete for ordinary purposes and supplied with numerous references to the leading works and memoirs. Contents: Introductory; Carbon and Its Compounds; Silicon and Its Compounds; Titanium and Its Compounds; Zirconium and Its Compounds; Thorium and Its Compounds; Germanium and Its Compounds; Tin and Its Compounds; Lead and Its Compounds.

**MODERN INORGANIC CHEMISTRY.**

By J. W. Mellor. New ed. Lond. and N. Y., Longmans, Green and Co., 1917. 20 + 910 pp., 334 illus., 64 tab., 8 x 5 in., cloth. \$2.50.

A general course in chemistry intended to develop skill in observation and experiment, memory and knowledge of relevant facts, ability to reason and think in a logical, systematic way, to cultivate the imagination, and to develop a critical and impartial judgment.

**AN INTRODUCTION TO THE CHEMISTRY OF PLANT PRODUCTS.**

By Paul Haas and T. G. Hill. 2d ed. Lond. and N. Y., Longmans, Green and Co., 1917. 12 + 411 pp., 5 illus., 9 x 6 in., cloth. \$3.50.

This work is an attempt to provide botanists with an account of the chemical and biological significance of the more important substances occurring in plants. The present edition has been revised as a whole, and the section on plant pigments has been rewritten.

**ORGANIC COMPOUNDS OF ARSENIC AND ANTIMONY.**

By Gilbert T. Morgan. (Monographs on Industrial Chemistry.) Lond. and N. Y., Longmans, Green and Co., 1918. 20 + 376 pp., 9 x 6 in., cloth. \$4.80.

This volume includes the methods of preparation and the chemical properties of those compounds, which have a practical application or theoretical interest. A useful bibliography is included.

**SULPHURIC ACID HANDBOOK.**

By Thomas J. Sullivan. N. Y., McGraw-Hill Book Company, Inc.; Lond., Hill Publishing Company, Ltd., 1918. 13 + 239 pp., 35 illus., 87 tab., 7 x 5 in., flexible cloth. \$2.50.

The author has collected in one volume of convenient size the chemical and mechanical data of practical value to makers and users of sulphuric acid in American industries.

**RUBBER:**

Its Production, Chemistry, and Synthesis in the Light of Recent Research; A Practical Handbook for the Use of Rubber Cultivators, Chemists, Economists, and Others. By A. Dubosc and Dr. A. Luttlinger. English Edition by Edward W. Lewis. Lond., Charles Griffin & Co., Ltd.; Phila., J. B. Lippincott Co., 1918. 11 + 383 pp., 51 tab., 9 x 6 in., cloth. \$6.50. (Gift of J. B. Lippincott Co.)

The authors have collected into a single volume all the scattered writings relating to the cultivation or the modern chemistry of rubber, with the addition of their own observations on these subjects. Much attention is given to the various proposed processes for the synthesis of rubber.

**EDIBLE OILS AND FATS.**

By C. Ainsworth Mitchell. Lond. and N. Y., Longmans, Green and Co., 1918. 12 + 159 pp., 9 x 6 in., cloth. \$2.00.

A concise outline of the chemical composition, and properties of the more important oils and fats, the methods of extracting them from the crude materials, and of purifying and preparing them for food. Particular attention is given to the newer methods. A very full bibliography is appended to the text.

**PATENTING AND PROMOTING INVENTIONS.**

By Moïse H. Avram. N. Y., Robert M. McBride & Co., 1918. 166 pp., 8 x 5 in., cloth. \$1.50.

Written for the inexperienced inventor, this book gives sound practical advice on the proper methods of securing, protecting, and promoting commercial patents.

**RADIOMETRIC APPARATUS**

For Use in Psychological and Physiological Optics, Including a Discussion of the Various Types of Instruments That have been Used for Measuring Light Intensities. By C. E. Ferree and Gertrude Rand. (Published as Psychological Monographs, No. 103.) 16 + 65 pp., 6 illus., 10 x 7 in., paper. 75 cents. (Gift of C. E. Ferree.)

After a discussion of the various types of instruments that have been used for measuring light intensities, and the advantages and disadvantages of each, the authors describe the apparatus which they have found most desirable.

**MANUAL OF FORESTRY FOR THE NORTHEASTERN UNITED STATES:**

Being Vol. I of "Forestry in New England" Revised. By Ralph Chapman Hawley and Austin Foster Hawes. 2d ed. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 12 + 281 pp., 64 illus., 80 tab., 9 x 6 in., cloth. \$2.00.

The first of two volumes dealing with the specific forestry problems of New England, but applicable also to conditions in neighboring States. This volume presents, in the simplest and least technical form possible, a brief survey of the whole field of forestry, for the use of woodland owners.

**A HANDBOOK OF ROCKS**

For Use Without the Microscope; with a Glossary on the Names of Rocks and of Other Lithological Terms. By James Furman Kemp. 5th ed., rev. N. Y., D. Van Nostrand & Co., 1918. 11 + 272 pp., 41 illus., 75 tab., 10 x 6 in., cloth. \$1.50.

Prof. Kemp has attempted to avoid the difficulties usually met by students, by mentioning and emphasizing only those characteristics which a beginner with preliminary training in mineralogy can observe and grasp. The fifth edition has been revised and enlarged, and an extensive glossary is included in the work.

**MacRAE'S BLUE BOOK:**

America's Greatest Buying Guide. Vol. IX, 1918. Chic., MacRae's Blue Book Company (copyright 1918). 1345 pp., 12 x 9 in., cloth. \$10.00.

This directory contains a list of thirty thousand American manufacturers of machinery, tools, and other supplies used by railroads and manufacturers, a list of manufacturers' representatives, a classed directory of makers of different products, an index of trade names, a collection of data useful to purchasing agents, tables of standard prices, and a discount computer.

**A BIBLIOGRAPHY OF MUNICIPAL UTILITY REGULATION**

And Municipal Ownership. By Don Lorenzo Stevens. Cambridge, Harvard University Press, 1918. 410 pp., 9 x 6 in., cloth. \$4.00.

An extensive bibliography of material published in English, brought down to the end of 1916. Covers electric, gas, water, and traction utilities, listing the material which the author considers of practical value, after an extensive study of the field. The entries are classified and annotated, and an index of subjects and authors is provided.

**WAR ADJUSTMENTS IN RAILROAD REGULATION.**

Edited by C. H. Crennan. (Annals of the American Academy of Political and Social Science, Vol. 76, Whole Number, 165, March, 1918.) Phila., The American Academy of Political and Social Science, 1918. 10 + 333 pp., 10 x 7 in., paper. \$1.00.

In this number is presented a discussion, by a number of railroad men, political economists, and lawyers, of various problems connected with railroad regulation. The principal headings are: Railroad Regulation on Trial; War Pressure for Adequate Service; Present Effects of War Control of Railroads; Plans for Adjustment after the War; Continuing Problems of Public Policy; Documents and Statistics Pertinent to Current Railroad Problems.

**REGULATION OF RAILWAYS;**

Including a Discussion of Government Ownership Versus Government Control. By Samuel O. Dunn. N. Y. and Lond., D. Appleton and Co., 1918. 10 + 354 pp., 5 tab., 8 x 5 in., cloth. \$1.75.

A general presentation of the methods that have been advocated and of the actual effects of rate regulation. Contents: What is the Matter with Railway Regulation? Functions of Government in Relation to Railways; Commission *versus* Legislative Regulation; Federal *versus* State Regulation; Regulation of Rates; Valuation in Relation to Regulation of Rates and Securities; Regulation of Securities; Regulation of Railway Operation; Peaceful Settlement of Labor Disputes, or Strikes? Government Regulation *versus* Government Ownership; Some Practical Phases of Government Ownership; The Failure of Government Ownership in Canada.

**AMERICAN RAILWAY ACCOUNTING:**

A Commentary. By Henry C. Adams. N. Y., Henry Holt & Co., 1918. 10 + 465 pp., 8 x 5 in., cloth. \$3.00.

Discusses the standard system of railway accounts promulgated for and used by American railways, and is intended to explain the accepted rules to students of accounting and practical accountants. Contents: The Task of the Railway Accountant; Structure of a System of Railway Accounts; Construction Costs Prior

to Operation; Construction Accounts Subsequent to Operation; Operating Expenses; Operating Revenues; The Income Account; Profit and Loss Accounts; General Balance Sheet Accounts; Classification of Investments in Road and Equipment; Classification of Operating Revenues and Operating Expenses; Classification of Income; Profit and Loss; Balance Sheet Accounts.

#### TRAIN OPERATION:

A Treatise on Train Rules, Train Orders, Change of Time Table, Automatic Block Signals, Interlocking, Examination Questions and Answers. By William Nichols. Rochester, N. Y., Le Grand Brown, 1916. 18 + 340 pp., 44 illus., 55 pl., flexible leather. \$2.50. (Flexible cloth, \$2.00.)

An interpretation and amplification of the rulings of the American Railway Association issued prior to November, 1915, and of the Standard Train Rules, and other practices which have been found necessary in handling trains. Based on the author's experience as Chairman, Board of Examiners, Southern Pacific Company, but does not apply to any particular railroad.

#### MODERN LOCOMOTIVE VALVES AND VALVE GEARS.

By Charles L. McShane. Chic., Griffin & Winters, 1918. 339 pp., 113 illus., 1 folded pl., 8 x 5 in., cloth. \$2.50.

A practical discussion of the principles, construction, and operation of the valves and valve gears of modern locomotives. Written in simple, non-mathematical language.

#### A TREATISE ON ROADS AND PAVEMENTS.

By Ira Osborn Baker. 3d ed., re-written and enl. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 11 + 666 pp., 235 illus., 83 tab., 9 x 6 in., cloth. \$4.50.

Dr. Baker's work is a discussion of the engineering principles involved in the construction of country roads and city pavements, intended for the designer and inspector, rather than for the contractor. Attention has been given to materials and forms of construction that affect the quality and cost of roadway, rather than to methods of doing the work. This third edition has been thoroughly revised and entirely rewritten. Five chapters of minor importance have been dropped to make room for an equal number of new ones, and the number of illustrations has been greatly increased.

#### ELEMENTS OF SANITARY ENGINEERING.

By Mansfield Merriman. 4th ed., rev. with the Assistance of Richard M. Merriman. N. Y., John Wiley & Sons, Inc.; Lond., Chapman & Hall, Ltd., 1918. 250 pp., 47 illus., 17 tab., 9 x 5 in., cloth. \$2.00.

A textbook intended to present the subject clearly in the smallest possible space, and to give greater prominence to fundamental principles than to details of construction and operation. The present edition has been revised, and fourteen new pages of text have been added.

#### EYE HAZARDS IN INDUSTRIAL OCCUPATIONS:

A Report of Typical Cases and Conditions, with Recommendations for Safe Practice. By Gordon L. Berry. N. Y., National Committee for the Prevention of Blindness, 1917. 145 pp., 51 illus., 9 x 6 in., paper. 50 cents.

A survey of the hazards to the eyes in industrial occupations in the United States, with recommendations and suggestions for minimizing them.



**DISEASES OF OCCUPATION AND VOCATIONAL HYGIENE.**

Edited by George M. Kober and William C. Hanson. Phila., P. Blakiston's Son and Co. (copyright 1916). 21 + 918 pp., 46 illus., 10 x 6 in., cloth. \$8.00.

With the assistance of a large number of experts, the editors have endeavored to present the basic facts concerning diseases of occupation in such a way as to form a safe, convenient guide for physicians, employers, workmen, legislators, public health officials, and other interested persons.

**HEATING AND VENTILATION.**

By John R. Allen and J. H. Walker. N. Y., McGraw-Hill Book Company, Inc.; Lond., Hill Publishing Company, Ltd., 1918. 10 + 305 pp., 174 illus., 76 tab., 9 x 6 in., cloth. \$3.00.

Intended for use as a textbook in schools of engineering and architecture, and as a handbook by practicing engineers.

**CONCRETE ENGINEERS' HANDBOOK;**

Data for the Design and Construction of Plain and Reinforced Concrete Structures. By George A. Hool and Nathan C. Johnson, Assisted by S. C. Hollister, with Chapters by Harvey Whipple, Adelbert P. Mills, Walter S. Edge, A. G. Hillberg, and Leslie H. Allen. N. Y., McGraw-Hill Book Company, Inc.; Lond., Hill Publishing Company, Ltd., 1918. 23 + 885 pp., illus., pl., tab., diag., 9 x 6 in., flexible cloth. \$5.00.

This work has been prepared to make available in concise form the best present knowledge concerning concrete and reinforced concrete, and to present complete data and details, as well as numerous tables and diagrams, for the design and construction of the principal types of concrete structures.

**STRENGTH OF MATERIALS:**

A Comprehensive Presentation of Scientific Methods of Locating and Determining Stresses and Calculating the Required Strength and Dimensions of Building Material. By Edward R. Maurer. Chic., American Technical Society, 1918. 126 pp., 2 pl., 7 tab., 8 x 5 in., cloth. \$1.00.

An elementary presentation of the subject, in which the use of higher mathematics has been avoided.

**OVER THE DRAWING BOARD:**

A Draftsman's Hand Book. By Ben J. Lubschez. Washington, D. C., Journal of the American Institute of Architects, 1918. 10 + 131 pp., 22 illus., 9 pl., 7 x 5 in., cloth. \$2.00. (Gift of Author.)

From his experience and observation, the author has selected convenient methods and short-cuts for draftsmen. Contents: Introductory; Drafting Room; Equipment; Instruments; Mounting of Paper and Drawings; Tracing Paper and Tracing Cloth; Geometrical Short-Cuts; Lettering; Titling; Numbering; Working Drawings; Indications; Lines; Sketches; Exhibition Drawings; Water Colors; Perspective; Filing of Drawings and Plates; Photography; The Reproductive Processes; Photo-Engraving; Etching; Wood Engraving; Lithography.

**ENGINEERING FOR MASONRY DAMS.**

By William Pitcher Creager. N. Y., John Wiley and Sons, Inc.; Lond., Chapman and Hall, Ltd., 1917. 11 + 237 pp., 88 illus., 1 pl., 25 tab., 9 x 6 in., cloth. \$2.50.

The author presents the theory and the fundamental assumptions of design of dams of this type, and gives a number of examples showing the application of theory

to practical designing. Contents: Investigations and Surveys: The Choice of Type of Dam; Forces Acting on Dams; Requirements for Stability of Gravity Dams; General Equations for Design of Gravity Dams; The Design of Solid, Non-Overflow Gravity Dams; The Design of Solid Spillway Gravity Dams; The Design of Hollow Dams; The Design of Arch Dams; Preparation and Protection of the Foundation; Flood Flows; Details and Accessories.

#### PRINCIPLES OF OCEAN TRANSPORTATION.

By Emory R. Johnson and Grover G. Huebner. N. Y. and Lond., D. Appleton and Co., 1918. 21 + 513 pp., 68 illus., 3 folded pl., 9 maps (2 folded), 2 folded charts, 18 tab., 9 x 6 in., cloth. \$2.50.

A systematic, comprehensive review of the whole subject, including ocean couriers and their services, ocean conferences, ocean rates and fares, and the principles and practices of government aid and regulation of ocean shipping. The book does not attempt to treat the various questions exhaustively, but seeks to present the essential facts for students and business men.

## ROLL OF HONOR

A List of Members of the Society Who are Serving in the Army or Navy of the United States or Any of Its Allies.\*

**VANSITTART, GEORGE EDWARD.** Maj., 13th Battery, Canadian Field Artillery, 2d Canadian Div.; wounded in action (France); died May 14th, 1916.

**AGNEW, AUGUSTUS WATEROUS.** Capt., 3d Canadian Pioneers; wounded in action (France); died September 17th, 1916.

**HAGUE, WILLIAM.** 1st Lieut., Engr. R. C., 116th Engrs.; died in service (France), January 1st, 1918.

**GOODFELLOW, JAMES GORDON.** Maj., Royal Engrs.; killed in action (France), March 23d, 1918.

**BUCKWALTER, DANIEL HARRIS.** Capt., Engr. R. C.; killed in action (France), May 12th, 1918.

**LINDBERY, CHARLES ARTHUR.** Capt., Engr. R. C.; died in service (Camp Lee, Va.).

**Abbot, Frederic V.** Brig.-Gen., Corps of Engrs., N. A.

**Abbot, Frederick William.** Lt.-Col., British Army.

**Acher, A. H.** Maj., Corps of Engrs., U. S. A.; Acting Lt.-Col., 4th Engrs., A. E. F., France.

**Acker, Robert L.** Corporal, Headquarters Co., 7th Field Artillery, A. E. F., France.

**Ackerman, Alexander S.** Capt., Engr. R. C., A. E. F., France.

**Ackerman, Arthur P.** 1st Lieut., Engr. R. C., 517th Engrs.

**Adams, Arthur.** Maj., Ord. R. C.

**Adams, Edward M.** Maj., U. S. A.

**Adams, Milton Jewell.** Capt., Engr. R. C., Co. C, 114th Engrs.

**Adams, Raymond E.** Capt., Q. M. R. C.

**Albert, Frederick W.** Lt.-Col., Engrs., N. A.

**Alden, Herbert C.** 1st Lieut., C. A. C., N. G. U. S.

**Alden, Langford Taylor.** Aspirant, 7<sup>e</sup> Batterie, 51st Regt. d'Artillerie, Secteur Postal No. 82 (French Army); Care, Morgan, Harjes Cie., Boulevard Haussmann, Paris, France.

**Alexander, E. Porter.** 1st Lieut., Engr. R. C., 509th Engrs., A. P. O. 701, A. E. F., France.

**Alexander, Kay.** Maj., 2d in Command, 12th Canadian Ry. Troops, B. E. F., France.

**Allen, Franklin R.** Capt., Engr. R. C.

**Allen, Herschel Heathcote.** Capt., Engr. R. C.

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\* This list is made up from replies to a circular forwarded to members of the Society, and others, and is probably neither accurate nor complete. It is requested that the attention of the Secretary be called to any omissions or inaccuracies in order that they may be corrected in subsequent lists.

- Allen, Ralph B.** 1st Lieut., Engr. R. C., Co. B, 25th Engrs., A. E. F., France.
- Allen, Walter Henry.** Maj., Engr. R. C.
- Allen, Walter Hinds.** Civ. Engr., U. S. N. (rank of Lt.-Commander).
- Allison, William F.** Maj., Engr. R. C., A. E. F., France.
- Altman, Frank S.** Lieut., Engr. R. C., 23d Engrs.
- Altstaetter, F. W.** Col., Corps of Engrs., U. S. A.
- Anderson, J. E.** Maj., 212th Field Co., Royal Engrs., B. E. F., France.
- Anderson, J. H.** Capt., Engr. R. C.; Adjt., 1st Replacement Engrs.
- Anderson, W. P.** Capt., Engr. R. C., A. E. F., France.
- Anderson, W. S.** Cadet, School of Military Aeronautics.
- Andrew, Clarence R.** Capt., Engr. R. C., 32d Engrs.
- Andrews, Carl B.** Capt., Engr. R. C.
- Andrews, J. H. M.** Maj., Ord. R. C.
- Angas, Robert M.** 1st Lieut., U. S. N. G., 106th Engrs.
- Annear, E. H.** Capt., Engr. R. C., 20th Engrs.
- Applegarth, Gault.** Capt., Engr. R. C., 23d Engrs.
- Ardery, Edward Dahl.** Col., Corps of Engrs., U. S. A.; Chf. Gas Officer, 2d Army Corps, A. E. F., France.
- Armitage, George W.** Capt., Q. M. R. C.
- Arms, Leo M.** Lieut., Engr. R. C., Co. F, 2d Engrs., A. E. F., France.
- Armstrong, Charles Johnstone.** Brig.-Gen.; Chf. Engr., H. Q., Canadian Army Corps, B. E. F., France.
- Armstrong, Merwin.** Capt., Engr. R. C., 105th Engrs.
- Arn, William G.** Maj., Engrs., N. A., 13th U. S. Engrs. (Ry.), Postal Sector 215, A. E. F., France.
- Ashkins, Nathan Thomas.** 1st Lieut., Engr. R. C., Lines of Communication, Eng. Headquarters, A. E. F., France.
- Ashley, Carl.** Capt., Engr. R. C., U. S. Military P. O. 702, A. E. F., France.
- Ashmead, P. H.** Maj., Engr. R. C.
- Ashton, Raymond.** 2d Lieut., A. S., Sig. R. C., A. E. F., France.
- Asplundh, E. T.** Capt., Engr. R. C.; Supply Officer, 103d Engrs.
- Asserson, Henry Raymond.** Maj., Engr. R. C., C. E. L. O. C., A. E. F., France.
- Atterbury, W. W.** Brig.-Gen.; Director of Transportation, A. E. F., France.
- Atwood, William G.** Lt.-Col., Engrs., N. A., 17th Engrs. (Ry.), U. S. A. P. O. 701, A. E. F., St. Nazaire, France.
- Austill, Hurieosco.** Capt., Engr. R. C., Co. D, 501st Engr. Service Bn., A. E. F., France.
- Austin, H. A. R.** 1st Lieut., Engr. R. C.
- Ayres, John Henry.** Capt., Engr. R. C., Co. D, 42d Engrs.

- Ayres, Quincy C. 2d Lieut., Engr. R. C., A. E. F., France.
- Babbitt, Harold E. Capt., Engr. R. C., Chf. Engr.'s Office, Adv. Sect. S. O. S., U. S. P. O. No. 714, A. E. F., France.
- Baffrey, Charles R. Capt., 102d Reg. d'Artillerie (French Army), Secteur Postal 160, B. C. M., Paris, France.
- Bailey, Lewis P. Capt., Engr. R. C., Co. A, 304th Engrs.
- Bakenhus, R. E. Civ. Engr., U. S. N. (rank of Commander).
- Baker, George L. 1st Lieut., Inf., N. A.
- Baker, H. S. Lt.-Col., Engrs., N. A., 111th Engrs.
- Baker, Shirley. Capt., Engr. R. C., Co. B, 23d Engrs.
- Balch, William H. Capt., Engr. R. C., A. P. O. 712, A. E. F., France.
- Barber, Charles W. Private, 38th U. S. Engrs.
- Barber, Justin F. Sergeant, Co. M, 23d Engrs., A. E. F., France.
- Barber, Norman N. Capt., N. A., 16th Engrs., A. E. F., France.
- Barclay, A. J. 1st Lieut., Engr. R. C.
- Barney, Samuel E. Maj., Engr. R. C. (*Unassigned*).
- Bartholomew, B. W. Lieut., Engr. R. C., 301st Engrs.
- Bascom, George R. Maj., San. C., N. A.
- Bassett, Herbert H. Maj., Engr. R. C.
- Battie, H. S. 1st Lieut., Engr. R. C.
- Baxter, O. G. Capt., Engr. R. C., Co. C, 601st Engrs.
- Bayliss, Paul. 2d Lieut., Engr. R. C., 8th Engrs., (Mounted).
- Beach, Lansing H. Col., Corps of Engrs., U. S. A.
- Beall, Pendleton. Private, Headquarters Co., 165th Inf., A. E. F., France.
- Beam, Carl Eugene. 2d Lieut., Engrs., N. A.
- Bebb, Edward C. Capt., Engr. R. C.
- Beeman, Thomas R. Capt., Engr. R. C., A. E. F., France.
- Beerbower, Dumont. Capt., Engrs., N. A., Co. C, 535th Engrs.
- Begg, R. B. H. Capt., Engr. R. C., A. E. F., France.
- Behrman, I. E. 1st Lieut., Engr. R. C., Care, C. E. O., Zone of the Advance, A. E. F., France.
- Belknap, Francis W. Engr. R. C., U. S. Army P. O. 705, A. E. F., France.
- Bell, George Edward. Lieut., Canadian Engrs., Care, Bank of Montreal, Waterloo Pl., London, S. W., England.
- Bell, Harry W. Capt., Engr. R. C.
- Bellinger, L. F. Civ. Engr., U. S. N. (rank of Commander).
- Benham, Claude Gilbert. Capt., C. A. C., U. S. A.
- Benham, W. L. Maj., Q. M. R. C.
- Bennett, John W. F. Maj., Q. M. C., N. A.
- Bennison, Ernest William. 1st Lieut., Engr. R. C., 23d Engrs.
- Bensel, J. A. Maj., Engr. R. C.



- Benson, Orville. Maj., Engr. R. C., Headquarters, A. E. F., France.  
Berdeau, Ray W. Capt., Engr. R. C.  
Bergan, Thomas B. Lieut., N. A.  
Betts, Clifford A. 1st Lieut., C. A. R. C., Battery E, 52d Artillery, A. E. F., France.  
Biddle, John. Maj.-Gen., Corps of Engrs., U. S. A.  
Billings, A. W. K. Lt.-Commander, Care, Commander, U. S. Naval Aviation Forces, Paris, France.  
Billings, Fred M. Capt., Engr. R. C.  
Binckley, George Sydney. Maj., Engr. R. C., 112th Engrs.  
Binger, Walter D. 2d Lieut., Sig. R. C.  
Birdseye, Claude H. Maj., Engr. R. C., Coast Artillery Brigade, A. E. F., France.  
Bishop, Roy P. 2d Lieut., Engr. R. C., 35th Engrs., A. P. O. 735, A. E. F., France.  
Bither, T. A. 2d Lieut., Sig. R. C., A. S.  
Bixby, William H. Brig.-Gen., U. S. A. (*Retired*).  
Black, Dudley F. Capt., Engr. R. C., 513th Engrs., A. E. F., France.  
Black, G. G. Capt., Engr. R. C.; Acting Adj., 314th Engrs.  
Black, James B. 1st Lieut., Engr. R. C., Chf. Engr.'s Office, Headquarters, A. E. F., France.  
Black, Ralph P. 1st Lieut., Engr. R. C., 32d Engrs.  
Black, Roger Derby. Lt.-Col., Corps of Engrs., U. S. A., Headquarters, A. E. F., France.  
Black, William M. Maj.-Gen.; Chf. of Engrs., U. S. A.  
Blackman, J. W. B. Lieut., Canadian Ry. Troops, C. E. F.  
Blair, Alexander. 2d Lieut., Royal Engrs., B. E. F., France.  
Blair, McCrea Parker. Capt., No. 1 Depot Bn., Manitoba Regt., Winnipeg, Man., Canada.  
Blanchard, Murray. Maj., Engr. R. C., 520th Engrs.  
Boesch, Clarence E. Capt., U. S. N. G., Co. B, 105th Engrs.  
Boggs, F. C. Col., 315th Engrs., N. A.  
Boland, Charles J. 1st Lieut., Sig. C., U. S. A., 80th Aero Squadron, A. E. F., France.  
Bolin, Harry W. Sergeant, Co. E, 23d Engrs.  
Bolton, Frank L. Capt., Engr. R. C., 20th Engrs.  
Bond, P. S. Col., 107th Engrs., N. A.; Div. Engr., 32d Div., Army Engr. School, U. S. P. O. 714, A. E. F., France.  
Bonner, John P. Capt., C. A. R. C., A. E. F., France.  
Boorman, Kitchell M. Lieut., Sig. C., U. S. A., 481st Aero Squadron, A. E. F., France.  
Booth, Raymond. 1st Lieut., Engr. R. C., 54th Engrs.  
Booz, Horace Corey. Col., R. T. C., N. A., Care, D. G. T., A. E. F., France.

- Bosche, Guy. Capt., Engr. R. C., M. P. O. 705, A. E. F., France.  
Bott, C. N. 1st Lieut., Engr. R. C., 312th Engrs.  
Bowen, Edward Withers. Capt., Inf. R. C., 2d Inf. Replacement Regt.  
Bowlby, Henry L. Maj., 43d Engrs., N. A.  
Bowles, James T.-B. Maj., San. C., N. A.  
Bowne, Sidney B. 2d Lieut., U. S. Public Health Service.  
Boyd, George R. Capt., Engr. R. C., A. E. F., France.  
Boyden, Harry C. Maj., Engrs., N. A.  
Boyle, James M. Maj., Ord. R. C.  
Bragg, Kendal B. Asst. Civ. Engr. (rank of Lieut. (Junior Grade)).  
Braly, Raymond F. 1st Lieut., Engr. R. C.  
Braunworth, Percy L. Capt., Engr. R. C., Care, Director General of Transportation, Army P. O. 705, A. E. F., France.  
Bres, Edward Sedley. 1st Lieut., Engr. R. C., 114th Engrs.  
Brewster, Henry B. Capt., Engr. R. C., and Adjt., 303d Engrs.  
Breyman, John B., Jr. 2d Lieut., C. A. R. C., 22d Co.  
Briggs, Robert W. Lieut., Sig. R. C., A. S., 73d Aero Constr. Squadron.  
Bright, Graham B. Capt., Engr. R. C., and Regimental Adjt., 305th Engrs. (Pioneers).  
Brinkley, Milo H. Capt., Engr. R. C.  
Bronson, Howard F. Capt., San. C., N. A.  
Brook, A. E. Capt., Royal Engrs., B. E. F., France.  
Brooking, J. H. Capt., Engr. R. C., Co. B, 12th Engrs. (Ry.), A. E. F., France.  
Brooks, Josiah R. 1st Lieut., Engr. R. C.  
Brown, Charles E. Capt., Engr. R. C.  
Brown, Clarence C. 1st Lieut., Co. E, 12th Engrs. (Ry.), A. E. F., France.  
Brown, Earl I. Col., 317th Engrs.  
Brown, Elliot C. Lt.-Commander, U. S. N. R.  
Brown, H. Whittemore. 2d Lieut., Engr. R. C., A. E. F., France.  
Brown, Harry Madara. 1st Lieut., Inf. R. C. (*Unassigned*).  
Brown, Levant R. Capt., Engr. R. C.  
Brown, Marshall W. Maj., Engr. R. C., P. O. 702, A. E. F., France.  
Brown, Norman F. Maj., R. T. C., N. A., Care, Director-Gen. of Transportation, A. E. F., France.  
Brown, Robert H. Capt., San. C., N. A.  
Brownell, E. H. Civ. Engr., U. S. N. (rank of Commander).  
Brush, Carl F. Capt., Engr. R. C., A. P. O. 716, A. E. F., France.  
Bryan, Clark A. Capt., Engr. R. C.  
Buchanan, Warren Henderson. Chf. Machinist Mate, U. S. N. R. F.  
Bucher, Harold F. Lieut., Engr. R. C., 2d Engrs., A. E. F., France.  
Buck, Richard S. Maj., 11th Engrs. (Ry.), A. E. F., France.

- Buck, Walter Van. Capt., Engr. R. C., Co. F, 23d Engrs.  
Bunker, George H. Capt., Engr. R. C., 306th Engrs.  
Bunker, Stephen S. Capt., Engr. R. C., Co. C, 503d Service Bn.,  
A. E. F., France.  
Burd, Edward M. Capt., C. A. R. C.  
Burdett, O. L. Capt., Engr. R. C., A. E. F., France.  
Burger, Alfred A. 2d Lieut., Inf. N. A., 19th Co., 2d Inf. Replacement  
Regt.  
Burgess, Harry. Col., N. A., 16th Engrs. (Ry.), A. E. F., France.  
Burkett, Joseph M. Capt., Engr. R. C., A. E. F., France.  
Burky, C. R. Capt., Sig. R. C., A. S.  
Burr, Edward. Col., Corps of Engrs., U. S. A., Manila, Philippine  
Islands.  
Burrell, Glenn S. Civ. Engr., U. S. N. (rank of Lt.-Commander).  
Burrowes, H. G. 1st Lieut., Engr. R. C., Co. B, 25th Engrs., A. E. F.,  
France.  
Burt, Henry J. Maj., Q. M. C., N. A.  
Burton, William. 1st Lieut., Engr. R. C.  
Bush, Lee M. Central Officers' Training School, Camp Zachary Tay-  
lor, Ky.  
Bush, Lincoln. Lt.-Col., Q. M. C., N. A.  
Bushnell, Howard B. Capt., Engr. R. C., A. E. F., France.  
Bushnell, Howard E. Capt., Engr. R. C.  
Busse, Franz A. Capt., Engr. R. C. (*Unattached*), A. E. F., France.  
Butler, John Soule. Maj., Engr. R. C.  
Butler, Millard A. Col., Q. M. C., N. A.  
Butler, William P. Lieut., U. S. N. R. F.  
Byam, L. H. Capt., Engr. R. C.  
Byllesby, Henry M. Maj., Sig. R. C., A. S.  
Byrd, J. H. Capt., Engr. R. C., 314th Engrs.  
Caffall, Geoffrey A. Private, No. 1 Coy., Canadian Machine Gun  
Depot, Seaford, Sussex, England.  
Caldwell, William H. Lieut., U. S. N. R. F.  
Cameron, Harry Frank. Maj., Engr. R. C.  
Camp, George Dashiell. 1st Lieut., Engr. R. C., 316th Engrs.  
Campbell, Charles C. Private, Co. No. 13, Motor Group, Med. C.  
Canfield, George Hathaway. Capt., Engr. R. C., 316th Engrs.  
Carey, Matthew L. Capt., Q. M. R. C., A. E. F., France.  
Carey, William N. Maj., 1st Bn., 313th Engrs.  
Carlin, J. P. Capt., Engr. R. C.  
Carlson, Carl Alexius. Civ. Engr., U. S. N. (rank of Lt.-Com-  
mander).  
Caro, Phillip. Lieut., 2d Junior Co., No. 4 Command Depot, A. T. F.,  
Codford, Wiltshire, England.

- Carroll, James E. Maj., Engr. R. C., 527th Engrs., A. P. O. 701, A. E. F., France.
- Carter, E. Kemper. Capt., Engr. R. C., Co. C, 518th Engrs.
- Case, Charles A. 1st Lieut., Engr. R. C., 314th Engrs.
- Cate, Charles Edward. Capt., 45th Engrs., N. A.
- Caton, John H., 3d. Capt., Engr. R. C.
- Cattell, William A. Maj., Engr. R. C.
- Cerny, John W. Maj., Q. M. C., N. A.
- Chadwick, Maurice F. Private, 24th Tr. Bn., F. A. R. D., Camp Jackson, S. C.
- Chamberlaine, Robert L. Capt., A. S., Sig. R. C.
- Chambers, Frank T. Civ. Engr., U. S. N. (rank of Captain).
- Chandler, William E. Master Gunner, Headquarters Co., 55th Artillery, C. A. C., A. P. O. 723, A. E. F., France.
- Chapman, Melville D. Lieut., U. S. Marine Corps.
- Chase, Clifford E. Capt., Engr. R. C., Co. A, 4th Engrs.
- Cheney, Sherwood A. Col., N. A., 110th Engrs., A. E. F., France.
- Cherry, Alan Gordon. 1st Lieut., N. A., 301st Engrs.
- Chevalier, Willard T. Capt., Engr. R. C., Co. D, 11th Engrs. (Ry.), A. E. F., France.
- Child, John T. 2d Lieut., San. C., N. A.
- Chittenden, Albert Frederick. 1st Lieut., Engr. R. C., Co. F, 18th Engrs. (Ry.), P. O. No. 705, A. E. F., France.
- Christensen, George A. Capt., Q. M. R. C.
- Christophers, Reginald Gillon. (No. 60286), 2d Lieut., 34th Reinforcements, N. Z. E. F.
- Church, Elihu C. Capt., Engr. R. C., A. E. F., France.
- Churchill, Percival M. Maj., Engr. R. C., Headquarters, 538th Engrs.
- Churchill, Robert C. Lieut., Co. D, 25th Engrs., A. E. F., France.
- Claflin, William B. Capt., Engr. R. C., Headquarters, 39th Div.
- Claiborne, Herbert A., Jr. 2d Lieut., Sig. R. C. (*Unassigned*).
- Clark, Ernest A. Capt., Engr. R. C.
- Clark, Howard F. Capt., Engr. R. C., A. E. F., France.
- Clarke, Harry L. 1st Lieut., Engr. R. C., Co. E, 28th Engrs., N. A.
- Clarke, Thomas C. Lt.-Col., 110th Engrs., A. E. F., France.
- Clarke, W. D. Capt., Engr. R. C., 23d Engrs. (Highway), A. E. F., France.
- Clayton, Thomas W. Capt., Engr. R. C., A. E. F., France.
- Cleckner, Frederick M. Private, Meteorological Section, Sig. C.
- Cleveland, Lou B. 1st Lieut., Co. D, 105th Engrs.
- Clinton, Delmar S. Maj., Engr. R. C.
- Cobb, William R. Lieut., U. S. N. N. V., U. S. S. *Frederick*.
- Cochrane, Victor Hugo. Maj., Q. M. C., N. A.

- Coe, C. S. Maj., Engrs. N. A., 17th Engrs. (Ry.), A. P. O. 701, A. E. F., France.
- Coe, David. Acting Capt., R. E., Care, R. C. E., Communications, B. E. F., France.
- Coe, E. K. Maj., Engr. R. C., Care, C. E. O., L. of C., U. S. M. P. O. No. 702, A. E. F., France.
- Cole, Howard J. Capt., Engr. R. C.
- Coleman, Eugene H. Capt., Engr. R. C., 312th Engrs.
- Colgan, R. J. Capt., 11th Engrs. (Ry.), A. E. F., France.
- Collins, Earl H. Capt., C. A. R. C.
- Collins, Merton C. 1st Lieut., Engr. R. C.
- Columbia, Curtis F. 1st Lieut., C. A. R. C., Heavy Artillery Headquarters, A. E. F., France.
- Comly, Harry S. Meteorologist, Sig. C, 32d Service Co., Meteorological Section, U. S. A.
- Comly, James R. 1st Lieut., Engr. R. C., 55th Engrs.
- Compton, Arthur M. Lt.-Col., 126th F. A.
- Compton, R. Keith. Maj., Engr. R. C.
- Conard, Clarence Knight. Maj., Ord. R. C.
- Conard, R. A. Civ. Engr., U. S. N. R. F., Port au Prince, Haiti.
- Connelly, Walter L. Master Engr., Senior Grade, Headquarters Det., 310th Engrs.
- Connolly, A. H. Cadet, School of Military Aeronautics.
- Connor, W. D. Col., N. A., Gen. Staff; Asst. Chf. of Staff, A. E. F., France.
- Conway, N. B. Capt., Engr. R. C., 516th Engrs.
- Cook, Paul D. Capt., Engr. R. C., 109th Engrs.
- Cooke, Frederick H. Civ. Engr., U. S. N. (rank of Lt.-Commander).
- Coombs, Robert D. Maj., Ord. R. C.
- Coomer, R. M. Capt., Engr. R. C., Headquarters, Eng. Corps, Line of Communications, A. E. F., France.
- Cooper, David R. Capt., Engr. R. C., A. E. F., France.
- Cooper, Hugh L. Lt.-Col., N. A., A. E. F., France.
- Copeland, Robert Morris. 2d Lieut., Engr. R. C.; Instr., 111th Engrs.
- Corkran, Wilbur Sherman. Capt., Engrs., U. S. A., Co. A, 1st Engrs., A. E. F., France.
- Cornell, J. W. Capt., Q. M. C., N. A.
- Cornish, Lorenzo D. Capt., Engr. R. C., Co. C, 15th Engrs. (Ry.), A. E. F., France.
- Cosby, Spencer. Col., Corps of Engrs., U. S. A., 5th Engrs.
- Cotter, Carl Henry. Asst. Civ. Engr., U. S. N.
- Covert, John F. 1st Lieut., Engr. R. C.
- Cowles, William Pierce. Maj., Engr. R. C., 34th Engrs., A. E. F., France.

- Cox, Leonard M. Civ. Engr., U. S. N. (rank of Commander).  
Coy, Burgis G. Capt., Engr. R. C., Co. D, 314th Engrs.  
Cragin, Charles Calhoun. Capt., Co. C, 18th Engrs. (Ry.), A. E. F., France.  
Crandall, Carl. Flying Cadet, U. S. Air Service.  
Crane, Albert Eli. 1st Lieut., Engr. R. C., 6th Engrs., A. E. F., France.  
Crane, Joseph S. Maj., Q. M. C., N. A.  
Crawford, Hugh W. Capt., Co. A, 110th Engrs.  
Crawford, Ivan C. Maj., U. S. N. G., 115th Engrs.  
Crecelius, S. F. Lt.-Col., Engr. R. C., 101st Engrs., A. E. F., France.  
Crocker, Herbert Samuel. Maj., Engr. R. C.  
Crocker, James R. Capt., Engr. R. C., Co. F, 106th Engrs.  
Crooks, Clinton H. Capt., Engr. R. C.  
Crosby, W. W. Lt.-Col., Engrs., N. A.  
Crowell, Francis S. Capt., Q. M. C., N. A.  
Crozier, William. Maj.-Gen., U. S. A.; Chief of Ordnance, U. S. A.  
Cudebec, Albert B. Capt., Engr. R. C., U. S. Military P. O. No. 702, A. E. F., France.  
Culver, Arthur. Lieut., R. E., 156th Field Co., B. E. F., France.  
Cunningham, John G. L. Capt., Ord. R. C.  
Curfman, Lawrence E. Maj., Engr. R. C., 314th Engrs.  
Currey, J. W. 1st Lieut., Engr. R. C., Co. C, 115th Engrs.  
Currie, Thomas A., Jr. Private, Co. D, 301st Inf.  
Cushing, Edward B. Maj., Engr. R. C.; Supt., Army Transport Service, U. S. A. P. O. No. 705, A. E. F., France.  
Cutler, Leon G. Capt., C. A. R. C., 57th Artillery, C. A. C., A. E. F., France.  
Dallis, Park A. Capt., Engr. R. C.; Adj., 24th Engrs.  
Daly, A. P. V. 2d Lieut., 4th Connaught Rangers; 48 Cathcart Rd., London, S. W., England.  
Daly, D. A. Capt., Engr. R. C., 16th Engrs., A. E. F., France.  
Daly, John W. Lieut., Inf. R. C.  
Danforth, George Clapp. Capt., Engr. R. C., 602d Engrs., A. E. F., France.  
Darling, Clinton Stowell. 1st Lieut., 108th Engrs., A. E. F., France.  
Darville, M. A. 2d Lieut., Engr. R. C., A. E. F., France.  
Davidson, George B. 2d Lieut., Engr. R. C.  
Davies, J. P. Capt., Ord. R. C.  
Davis, Chandler. Capt., Engr. R. C., A. E. F., France.  
Davis, Daniel E. 1st Lieut., Engr. R. C.  
Davis, Frederick A. W. 1st Lieut., Co. E, 102d Engrs.  
Davis, John C. Capt., C. A. R. C.



- Davis, Robert M. 1st Lieut., Engr. R. C., 57th Engrs. (Inland Waterways).
- Davy, J. J. 1st Lieut., 23d Engrs.
- Day, Warren E. Capt., Engr. R. C.
- Dean, Bertram D. Capt., Engr. R. C., Dept., C. and F., Headquarters, S. O. S., U. S. M. P. O. 717, A. E. F., France.
- Dean, Willis J. 1st Lieut., Q. M. C., N. A.
- de Charms, Richard, Jr. 1st Lieut., Engr. R. C., Co. A, 503d Engrs. (Service Bn.), A. E. F., France.
- Dedicke, E. C. 2d Lieut., U. S. A.
- Deiser, Norman A. 1st Lieut., Engr. R. C.
- De Leuw, Charles E. 1st Lieut., Engr. R. C., 4th Engrs.
- De Moss, Samuel. Private, School of Meteorology, Sig. C.
- Dennis, William F. Maj., Engr. R. C. (*Unassigned*).
- Dent, Elliott J. Col., N. A., 26th Engrs.
- Derby, George McC. Lt.-Col., Corps of Engrs., U. S. A.
- Diesem, Harry C. Capt., Engr. R. C.; Commanding Officer, 404th Engr. Depot Detachment.
- Diffenderfer, Claude O. Capt., Engr. R. C., 534th Engrs.
- Dillman, George L. Maj., Engr. R. C.
- Dobson, Gilbert C. Capt., Engr. R. C., 314th Engrs.
- Dodd, Joseph H. L. 2d Lieut., B. W. I. Regt.; Burlington, St. Margaret's Bay, Jamaica.
- Doebler, Valentine S. Capt., Q. M. R. C.
- Doeleman, H. F. Maj., Q. M. C., N. A.
- Dohm, Edward Clarence. Capt., Engr. R. C.
- Doten, Leonard S. Capt., Q. M. R. C.
- Douglass, Louis R. Capt., Q. M. R. C.
- Dow, Hezekiah Shailer. 2d Lieut., 492d Constr. Squadron, Air Service, A. E. F., France.
- Doyle, John S. Capt., Engr. R. C.
- Drayton, Newbold. Corporal, Battery D, 108th F. A., 53d Art. Brigade, 28th Div.
- Drew, C. D. Capt., 11th Engrs. (Ry.), A. E. F., France.
- Drummond, William W. Capt., Engr. R. C.
- Drury, William F. Capt., Engr. R. C.
- Du Bois, George B. 1st Lieut., Engr. R. C.; Commander of 6th Div., Engr. Train, U. S. A., A. E. F., France.
- Dunlap, Walter H. 1st Lieut., Engr. R. C., 109th Engrs.
- Dunn, Beverly C. Maj., Corps of Engrs., U. S. A.
- Dunshee, Bertram K. 1st Lieut., Engr. R. C., 316th Engrs.
- Du Pré, Wallace Duncan. Lieut., Q. M. R. C., Mech. Repair Shop Unit No. 303.

- Durham, Henry Welles. Maj., Engr. R. C., 41st Engrs., A. E. F., France.
- Durham, Leicester. Capt., Engr. R. C., A. P. O. 733, A. E. F., France.
- Dykeman, Conrad F. 1st Lieut., Engr. R. C., 116th Engrs., P. O. 733, A. E. F., France.
- Eager, V. M. Capt., Q. M. C., N. A.
- Eason, F. G. Capt., Engr. R. C., 317th Engrs.
- Easton, Russell B. Capt., Engr. R. C., A. E. F., France.
- Eckel, Edwin C. Capt., Engr. R. C., Headquarters, A. E. F., France.
- Eddy, Albert C. Capt., 55th Engrs., A. E. F., France.
- Eddy, Harold M. Asst. Civ. Engr., U. S. N. R. F. (rank of Lieut. (Junior Grade)).
- Edgerton, G. E. Lt.-Col., Corps of Engrs., U. S. A.
- Edmondson, Ralph S. 1st Lieut., 27th Engrs.
- Edwards, G. G. Capt., Co. F, 315th Engrs.
- Elliott, J. W. Capt., Engr. R. C., Co. A, 602d Engrs.
- Elliott, Malcolm. Lt.-Col., Engrs., N. A., 309th Engrs.
- Elliott, Percival. Private, Co. D, 33d Engrs.
- Ellison, Alexander H. 1st Lieut., 20th Engrs. (Forestry).
- Embury, Aymar, 2d. Capt., Engr. R. C., Camouflage Section, A. E. F., France.
- Emerson, Raffae. Ensign, Flying Corps, U. S. N. R. F.
- Endicott, Mordecai T. Civ. Engr., U. S. N. (rank of Rear-Admiral).
- Enger, Arthur L. Capt., Engr. R. C.
- Ernst, Oswald H. Maj.-Gen., U. S. A. (*Retired*).
- Estes, F. E. Capt., 17th Engrs. (Ry.), A. E. F., France.
- Everett, Ralph B. Private, Co. F, 23d Engrs., A. E. F., France.
- Everham, Arthur C. Maj., Q. M. C., N. A.
- Fahy, Joseph Augustine. Capt., Engrs., N. A., Co. D, 518th Engrs.
- Fairchild, John F. Maj., Q. M. C., Brigade Headquarters, 1st Corps Troops.
- Fairlie, John Walter. 1st Canadian Exp. Force (*Retired*).
- Fairman, James Robert. Capt., Engr. R. C.
- Falk, Myron S. Maj., Ord. R. C.
- Farrin, James M. Capt., Engr. R. C.; Adj., 6th Bn., 20th Engrs., A. E. F., France.
- Fassett, Earle W. 1st Lieut., Engr. R. C., 316th Engr. Train, N. A.
- Feigel, John H. 1st Lieut., Engr. R. C., A. E. F., France.
- Feiner, Mark A. Meteorological Section, A. S., Sig. C.
- Feltham, Percy M. Capt., Engr. R. C.
- Ferguson, Harry Foster. 1st Lieut., Engr. R. C., A. E. F., France.
- Fernald, Gordon H. Capt., Engrs., N. A., Co. D, 304th Engrs.
- Fickes, Clark R. Maj., Engr. R. C., A. E. F., France.

- Fiebeger, G. J. Col., U. S. A., Headquarters, A. E. F.  
Fifer, Frank P. Capt., Engr. R. C., A. E. F., France.  
Finley, C. MacF. Capt., Engr. R. C., 503d Service Bn., A. E. F., France.  
Finnell, Woolsey. Maj., Engr. R. C., 501st Engrs., U. S. A. P. O. 741, A. E. F., France.  
Fischer, Charles, Jr. 2d Lieut., 308th Inf.  
Fisher, George Joseph. 2d Co., 4th E. R. O. T. C., Camp Lee, Va.  
Fisher, Janon. Maj., Engr. R. C., 522d Engrs.  
Fisk, Clinton H. Maj., Q. M. C., N. A.  
FitzGerald, C. C. Maj., Engr. R. C., 32d Engrs.  
Fitzgerald, Gerald C. 1st Lieut., Engr. R. C., 319th Engrs.  
Fitzpatrick, F. J. Capt., Engr. R. C., Co. C, Service Bn., 508th Engrs., A. E. F., France.  
Flagg, Herbert J. Capt., C. A. C., N. G. U. S.  
Flagler, C. A. F. Brig.-Gen., U. S. A., 5th F. A. Brigade, A. E. F., France.  
Fleming, Burton P. Capt., Engr. R. C.  
Flick, John K. Capt., Engr. R. C.  
Flook, Lyman R. 1st Lieut., Ord. R. C.  
Fogerty, Merton S. 34th Prov. Squadron, Aviation Camp, Waco, Tex.  
Fogg, Alden K. Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).  
Follin, James W. 1st Lieut., San. C., U. S. A.  
Fölling, B. N. Capt., Engrs., N. A.  
Foote, Olney N. Lieut., Co. G, 322d Inf.  
Ford, William Ellis. Capt., Engr. R. C.  
Fortney, C. Page. Capt., Engr. R. C.  
Forster, Arthur Oscar. Capt., Q. M. C., N. A.  
Foster, Ernest H. Ensign, U. S. N. R. F.  
Foster, Samuel D. 1st Lieut. and A. D. C., Headquarters, 53d Artillery Brigade.  
Fouilhoux, J. Andre. Capt., F. A.  
Fountain, Thomas L. Capt., Engr. R. C., Care, C. O., 17th Engrs. (Ry.), U. S. A. P. O. 701, A. E. F., France.  
Fowler, Charles Worthington. 1st Lieut., Sig. R. C., A. S., Commanding 485th Aero Constr. Squadron, A. E. F., France.  
Fox, Henry. Capt., Engr. R. C., 314th Engrs.  
Fox, Stephenson W. Maj., Engr. R. C.  
Frank, George Stedman. Lieut., Sig. R. C., A. S., A. E. F., France.  
Franks, John B. 1st Sergeant, Co. C, 353d Inf.  
Freeman, William B. Capt., Engr. R. C., Co. A, 509th Engrs. (Service Bn.)

- French, F. C. Capt., Engr. R. C., 525th Engrs.  
Friedman, Harry B. Lieut., Sig. R. C., A. S.  
Fries, Amos A. Col., 30th Engrs., N. A.; Chf. of Gas Service, A. E. F., France.  
Froiseth, Richard E. 1st Lieut., Engr. R. C.  
Frost, Edward M. Asst. Civ. Engr., U. S. N. R. F.  
Fry, Alfred Brooks. Capt., U. S. N. N. V.  
Fyfe, James Lincoln. Maj., Q. M. C., N. A.  
Gailor, Chester F. Maj., Q. M. C., N. A.  
Galbreath, Albert W. 1st Lieut., Engr. R. C., Co. B, 12th Engrs. (Ry.), A. E. F., France.  
Gallagher, Leonard Bruce. 2d Lieut., Engr. R. C., Ry. Transportation Corps, U. S. A. P. O. 717, A. E. F., France.  
Galloway, John D. Maj., Engr. R. C., A. E. F., France.  
Galvin, James Augustine. 2d Lieut., Engr. R. C. (Unassigned), U. S. Army P. O. No. 714, A. E. F., France.  
Garnett, Benjamin J. 1st Lieut., Engr. R. C. (Unassigned), A. E. F., France.  
Gartensteig, Charles. Capt., Engr. R. C., 535th Engrs.  
Gatens, Ray S. 1st Lieut., Engr. R. C., Co. C, 42d Engrs., A. E. F., France.  
Gausmann, Roy W. Capt., Engr. R. C., Co. D, 303d Engrs.  
Gayler, E. R. Civ. Engr., U. S. N. (rank of Commander), Port au Prince, Haiti.  
Geib, George Albert. Capt., Engr. R. C., Co. A, 527th Engrs., Service Bn.  
Genung, J. H., Jr. Lieut., Engr. R. C.  
George, Howard H. Capt., Engr. R. C., Co. E, 305th Engrs.  
Getty, Lorenzo T. 1st Lieut., Sig. C., U. S. A., A. S., 75th Aero Constr. Squadron, A. E. F., France.  
Gibbs, E. A. Maj., 15th U. S. Engrs. (Ry.), A. E. F., France.  
Gibbs, William Wetmore. 1st Lieut., Engr. R. C.  
Giesen, Walter E. Private, U. S. M. C., Co. 269, Bn. 7.  
Giesting, Frank A. Maj., Engr. R. C., 302d Engrs.  
Giffels, William C. 1st Lieut., Engr. R. C.  
Gilman, E. Dow. 1st Lieut., N. A., 473d Engrs.  
Gladding, James N. Capt., Engr. R. C., A. E. F., France.  
Glander, John Henry, Jr. Asst. Civ. Engr., U. S. N. R. F. (rank of Ensign).  
Glazier, W. L. Maj., Engr. R. C.  
Goddard, Leslie Drew. Capt., Engr. R. C.  
Godfrey, Alex. H. Asst. Paymaster, U. S. N. R. F.  
Godfrey, Stuart C. Lt.-Col., Engrs., N. A., Headquarters, 318th Engrs., A. E. F., France.

- Goethals, George R. Lt.-Col., Corps of Engrs., U. S. A.  
 Golden, William A. Ensign, U. S. N. R. F., U. S. S. *Mary Alice*.  
 Goldsmith, Clarence. Maj., Q. M. C., N. A.  
 Gooch, Carl Joseph. Co. E, 32d Engrs.  
 Goodman, Benjamin. 1st Class Private, 447th Depot Detachment, Engrs., A. E. F., France.  
 Goodman, Leon. Capt. and Adjt., 109th Engrs., U. S. N. G.  
 Gordon, John Blake. Care, Chf. Engr. Officer, General Headquarters, A. E. F., France.  
 Gordon, Samuel. Civ. Engr., U. S. N. (rank of Lt.-Commander).  
 Goss, O. P. M. Capt., Sig. R. C., A. S.  
 Gotwals, John C. Lieut., Corps of Engrs., U. S. A.  
 Gough, William J. Capt., Engr. R. C.  
 Gould, William T. Capt., Engr. R. C., U. S. Military P. O. 705, A. E. F., France.  
 Grady, Frank L. Sergeant, Co. I, 52d Pioneer Inf.  
 Graff, George W. 40th Co., 10th Tr. Bn., 155th Depot Brigade.  
 Grant, John R. Capt. and Adjt., Royal Engrs., H. Q., R. E., 24th Div., B. E. F., France.  
 Grant, Kenneth C. Capt., Sig. R. C., A. S.  
 Grant, U. S., 3d. Col., U. S. A.  
 Gravell, William Henry. Capt., Engr. R. C., A. E. F., France.  
 Graves, E. M. Maj., Engr. R. C., 529th Engrs.  
 Gray, Earle P. 1st Lieut., Engr. R. C., 16th Engrs. (Ry.), A. E. F., France.  
 Gray, William B. Maj., Engr. R. C.  
 Green, Charles N. Maj., Engr. R. C.  
 Green, Clarence Jasper. 1st Lieut., Oregon Coast Artillery.  
 Green, F. W. Capt., Engr. R. C., 12th Engrs. (Ry.), U. S. Military P. O. 716, A. E. F., France.  
 Greene, F. S. Capt., U. S. N. A., Co. B, 302d Engrs.  
 Greenfield, Robert A. 303d Engrs.  
 Gregory, Luther E. Civ. Engr., U. S. N. (rank of Captain).  
 Gregory, William B. Maj., Engr. R. C., A. E. F., France.  
 Grehan, Bernard H. 1st Lieut., N. A., 312th Engrs.  
 Griffin, John Alden. Capt., Co. A, 316th Engrs.  
 Grigsby, Walter B. 1st Lieut., Engr. R. C., 9th Engrs. (Mounted).  
 Grindrod, Irvin S. 1st Lieut., Engr. R. C. (*Unassigned*).  
 Griswold, Harry T. 2d Lieut.; Asst. to Artillery Engr., Fort H. G. Wright, N. Y.  
 Griswold, Hector C. Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).  
 Griswold, Lee S. Capt., Engr. R. C. (*Unassigned*).

- Grodske, Walter J. Capt., Engr. R. C. (*Unassigned*), Manila, Philippine Islands.
- Gross, Frederick H. 2d Lieut., Engr. R. C., Co. B, 303d Engrs.
- Gross, Henry McC. 1st Lieut., 149th Div., Machine Gun Bn., A. E. F., France.
- Grunauer, Mortimer. Headquarters Co., 304th F. A., A. E. F., France.
- Gunther, Herman Dietrich. Co. B, 147th Inf.
- Guppy, Benjamin Wilder. Maj., Engr. R. C., 14th Engrs. (Ry.), A. E. F., France.
- Guptill, Joseph R. Private, Co. E, 23d Engrs., A. E. F., France.
- Gutman, David. Maj., Engr. R. C.
- Haas, Philip L. Capt., Engr. R. C.
- Hains, Peter C. Maj.-Gen., U. S. A.
- Halcombe, N. M. Capt., Royal Flying Corps, Egypt.
- Haldeman, Walter S. Capt., Engr. R. C.
- Hale, Richard King. Lt.-Col., 101st Field Artillery, A. E. F., France.
- Hall, Benjamin M., Jr. 1st Lieut., Engr. R. C., Co. B, 26th Engrs., A. P. O. No. 701, A. E. F., France.
- Hall, Charles L. Maj., Corps of Engrs., U. S. A., Headquarters, A. E. F., France.
- Hall, Gilbert G. 1st Lieut., Engr. R. C., 20th Engrs.
- Hall, Julius R. 1st Lieut., Engr. R. C., 515th Service Bn.
- Hall, Louis W. Capt., Engr. R. C., Care. Director of Const. and Forestry, S. O. S., P. O. 717, A. E. F., France.
- Hall, Oliver Antrum. Capt., Engr. R. C., 23d Engrs., U. S. A. P. O. 708, A. E. F., France.
- Hall, Warren E. Capt., Engr. R. C., Co. D, 506th Engrs. (Service Bn.), Base No. 2, A. E. F., France.
- Hallberg, Arthur S. 1st Lieut., U. S. N. R. F., U. S. S. *Quinnebaug*.
- Hamilton, Edward P. 2d Lieut., F. A. R. C., 306th Field Artillery.
- Hammond, John M. Capt., Q. M. C., N. A.
- Hanavan, William L. 1st Lieut., 9th Inf.; Adj., 2d Bn., A. E. F., France.
- Hancock, Henry Sydney, Jr. Lieut., Royal Engrs.; Field Engr., First Corps, B. E. F., France.
- Hanique, Jules E. Maj., Engrs., N. A., 537th Engrs., A. E. F., France.
- Hannan, David E. Capt., Engr. R. C., A. E. F., France.
- Hansen, Paul. Capt., Engr. R. C. Headquarters, Advance Section, S. O. S., Office of Chf. Engr., A. E. F., France.
- Hapgood, Frederic H. Co. A, 26th Engrs., A. E. F., France.
- Hardaway, Benjamin H., Jr. Maj., N. A.
- Harding, Chester. Col., Corps of Engrs., U. S. A., Balboa Heights, Canal Zone, Panama.
- Harding, Ralph L. Capt., Engr. R. C., 35th Engrs.



- Harley, Alfred F. Field Clerk, Engr. Corps, A. E. F., France.
- Harmon, W. G. Capt., San. C., N. A.
- Harrah, O. W. Capt., Engr. R. C., 319th Engrs.
- Harris, F. R. Rear-Admiral, U. S. N.
- Harris, Frank S. M. Lieut. (Senior Grade), N. N. V.
- Harrison, William Burr. Maj., Engr. R. C.
- Hart, S. A. 1st Lieut., Engr. R. C., 23d Engrs.
- Harter, A. F. Capt., Engr. R. C.
- Harts, William W. Brig.-Gen., N. A., G. H. Q., 1<sup>er</sup> Echelon, B. E. F., France.
- Hasbrouck, Oscar. Capt., Engr. R. C., 522d Engrs.
- Haskins, C. A. Capt., San. C., N. A.
- Haskins, John C. 1st Lieut., Engr. R. C., 22d Engrs.
- Hastings, R. P. 1st Lieut., Engr. R. C., Co. D, 26th Engrs.
- Haswell, John R. Capt., Engr. R. C. (*Unattached*), A. E. F., France.
- Hatch, Frederick N. Capt., Engr. R. C., 35th Engrs., A. E. F., France.
- Hauser, Kenneth D. Capt., 18th Engrs. (Ry.), A. E. F., France.
- Hawley, John B. Maj., Engr. R. C., 503d Engrs, Service Bn., A. E. F., France.
- Hays, Donald S. Capt., Engr. R. C.
- Hays, John Coffee. Maj., Q. M. R. C.
- Hazlehurst, James Nisbet. Maj., Engr. R. C., Headquarters, S. O. S., A. E. F., France.
- Healey, Charles F. Capt., Engr. R. C., A. P. O. No. 701, A. E. F., France.
- Heck, Nicholas H. Lieut., U. S. N. R. F.
- Heed, Samuel D. Capt., Ord. R. C.
- Hendricks, Ernest D. Capt., Engr. R. C., Co. B, 303d Engrs.
- Hendrie, John Gibson. Capt., Engr. R. C.; Adj., 2d Bn., 318th Engrs. (Sappers).
- Henning, Charles S., Jr. Master Engr., Co. A, 21st Engrs., A. E. F., France.
- Henry, Earle Underwood. 1st Lieut., Engr. R. C., 116th Engrs., Care, D. G. T., A. P. O. No. 717, A. E. F., France.
- Herkness, Lindsay C. Lt.-Col., Corps of Engrs., U. S. A., 302d Engrs.
- Herzig, Solon. 1st Lieut., Engr. R. C., Co. F, 25th Engrs., A. E. F., France.
- Heslop, D. G. Capt., Royal Engrs., O. C. Surveys, Light Rys., E. E. F., Palestine.
- Heuer, W. H. Col., U. S. A. (*Retired*).
- Hewett, M. W. 1st Lieut., Engr. R. C., 508th Service Bn.
- Hews, Wellington P. Capt., Engr. R. C.
- Hickok, Clifton E. Capt., Engr. R. C.

- Hilder, Frazer C. Capt., Engr. R. C., Goring Hotel, Grosvenor Gardens, London, W. 1, England.
- Hiles, Elmer K. Maj., 15th U. S. Engrs. (Ry.), A. E. F., France.
- Hilton, Harry L. Asst. Civ. Engr., U. S. N. R. F.
- Hirzel, Alfred Sparks. Capt., 1st Delaware Inf.
- Hjorth, Lawrence R. Co. C, 302d Field Sig. Bn.
- Hoad, William C. Maj., Sig. C., N. A.
- Hoar, Allen. Civ. Engr., U. S. N. R. F.
- Hobbs, Henry W. Maj., Engr. R. C.
- Hodge, Henry W. Lt.-Col., R. T. C., N. A.; Mgr. of Roads, G. H. Q., A. E. F., France.
- Hodges, H. F. Maj.-Gen., N. A.
- Hoffman, Eugene R. Private, Headquarters Detachment, 26th Engrs., A. E. F., France.
- Hogan, John P. Capt., 11th Engrs. (Ry.), A. E. F., France.
- Holborn, Lewis A. Lieut., 22d Engrs.
- Hollyday, R. C. Civ. Engr., U. S. N. (rank of Captain).
- Holmes, Thomas H. Capt., Engr. R. C., 311th Engrs.
- Holstlaw, Charles Henry. 1st Lieut., Inf. R. C., 124th Inf.
- Holt, Andrew H. Capt., Engr. R. C.
- Honeyman, Bruce R. Capt., Engr. R. C., Co. A, 313th Engrs., N. A.
- Hoover, A. Pearson. Maj., Q. M. C., N. A.
- Hopkinson, George Martin. Capt., Q. M. C., N. A.
- Hopper, John G. L. Secy. to Capt. Escale, 3d Reg. de Marche, 1en Etranger (Foreign Legion), 43 Avenue de l'Opera, Paris, France.
- Horton, C. K. Capt., Engr. R. C.; Adj., 2d Bn., 111th Engrs.
- Horton, Dwight Fred. Capt., Engr. R. C.
- Hough, David L. Maj., Q. M. C., N. A.
- Howard, Conway Robinson. 1st Lieut., 17th Engrs. (Ry.), A. E. F., France.
- Howard, Gerald B. 1st Lieut., Engr. R. C., Co. E, 17th Engrs. (Ry.), A. E. F., France.
- Howe, Wilson Tyler. Capt., Q. M. C., N. A.
- Howell, Clarence S. Capt., Engr. R. C.
- Howell, George P. Col., Corps of Engrs., U. S. A.
- Hoxie, Richard L. Brig.-Gen., U. S. A. (*Retired*).
- Huber, Joseph E. Care, 1st Training Co., 5th C. A. Training Camp Fort Monroe, Va.
- Huber, William T. Capt., Engr. R. C.
- Hudson, H. W. Maj., Staff of Director-Gen. of Transportation, Care, Director-Gen. of Transportation, A. E. F., France.
- Hughes, George L. 2d Lieut., Engrs., N. A.
- Huie, Irving V. A. Capt., Co. B, 1st Engrs., U. S. A., A. E. F., France.

- Hull, George B.** Maj., Canadian Forestry Corps, Care, C. H. Orme, Prince Rupert, B. C., Canada.
- Hull, Gordon B. Gifford.** Capt., Royal Engrs.; The Grange, Horton, Northampton, England.
- Hulsart, C. Raymond.** Capt., Co. B, 11th Engrs. (Ry.), A. E. F., France.
- Humann, Edwin August.** Private, Co. D, 4th Engrs., U. S. A.
- Humphrey, Gilbert Edwin.** Maj., Corps of Engrs.
- Humphreys, Charles Raymond.** Capt., 105th Engrs., 30th Div.
- Humphreys, Ewing S.** 1st Lieut., Engr. R. C.
- Hunt, Charles A.** Civ. Engr., U. S. N. R. F.
- Hunt, Conway B.** Maj., Engr. R. C.
- Hunt, Leigh A.** Maj., 110th Engrs., A. E. F., France.
- Hurlbut, H. B.** Capt., Ord. R. C.
- Hurley, John Patrick.** Capt., Co. K, 165th Inf., A. E. F., France.
- Husson, William M.** Capt., 82d U. S. Field Artillery.
- Husted, Alva Guy.** Capt., San. C., N. A.
- Huston, Tillinghast L'Hommedieu.** Maj., Engr. R. C., 1st Bn., 16th Engrs. (Ry.), A. E. F., France.
- Hyde, Charles G.** Capt., San. C., N. A., Bn. 7, Co. 28.
- Hyde, Richard Lewis.** 2d Lieut., Engr. R. C., 10th Engrs., A. E. F., France.
- Hynds, Harold D.** 1st Lieut., Sig. R. C., A. S.
- Ingalls, O. L.** Maj., Engr. R. C.
- Irish, Leland W.** Master Engr., 42d Bn., 20th Engrs.
- Jackson, Dugald C.** Maj., Engr. R. C., A. E. F., France.
- Jackson, Jesse A.** Maj., 116th Bn., 41st Div., Sig. C.
- Jackson, W. B.** Maj., Q. M. C., N. A.
- Jacobosky, Gilbert G.** Capt., Co. B, 55th Engrs., A. E. F., France.
- Jacobs, Joseph.** Maj., Engr. R. C., 509th Engrs. (Service Bn.), A. E. F., France.
- Jacobson, Alfred Leon.** Capt., Commandant, 26<sup>me</sup> Batterie, 246<sup>me</sup> Reg. d'Artillerie de Campagne, Secteur Postal 30, Armée Française en Campagne, France.
- Jacques, Henry L.** Capt., Engr. R. C.
- Jaenicke, William H.** 2d Lieut., Engrs., N. A.
- James, Alfred R.** 1st Lieut., Q. M. C., N. A.
- James, Robert Lane.** 2d Lieut., 17th Engrs. (Ry.), A. E. F., France.
- Jaques, J. D.** Civ. Engr., U. S. N. R. F. (rank of Lieut.).
- Jasper, T. McLean.** Capt., Imperial Forces; Director of Signalling, No. 2, R. G. A., Cadet School, Maresfield Park, Sussex, England.
- Jenkins, Charles M.** 1st Lieut.; Supply Officer, Headquarters, 3d Bn., 20th Engrs., A. P. O. No. 721, A. E. F., France.
- Jenkins, Jenks B.** Maj., Engr. R. C.

- Jennings, Percy J. Capt.; Adjt., 5th Pioneers Canadians (late 4th Pioneers), Care, Canadian Bank of Commerce, 2 Lombard St., London, E. C., England.
- Jerrard, Leigh P. 2d Lieut., Engr. R. C., Headquarters, 67th Artillery Brigade, A. E. F., France.
- Jervy, Henry. Brig.-Gen., Corps of Engrs., U. S. A.
- Jessup, Walter E. 1st Lieut., Engr. R. C., Co. C, 39th Engrs.
- Jewell, Albert Hartwell. 1st Lieut., Sig. C., A. S. A.
- Johnson, Frank Melvin S. Capt., Corps of Engrs., U. S. A., 4th Div., 4th Engrs., A. E. F., France.
- Johnson, George A. Maj., Q. M. C., N. A.
- Johnson, Hollister. 2d Lieut., Engr. R. C., Co. C, 1st Bn., 20th Engrs., A. E. F., France.
- Johnson, J. M. Lt.-Col., 117th Engrs., A. E. F., France.
- Johnson, Louis R. Capt., Engr. R. C.
- Jonah, F. G. Maj., Engr. R. C.; Chf. Engr., Dept., Light Rys., U. S. Army P. O. 706, A. E. F., France.
- Jones, Harry E. Private, A. S., Sig. C., Meteorological Sec.
- Jones, Henry L. Maj., Engr. R. C. (*Unassigned*).
- Jones, John H. Capt., 1st Canadian Pioneers, B. E. F., France.
- Jones, Jonathan. Capt., Engr. R. C., 23d Engrs.
- Jones, Lewis Allen. Capt., Engr. R. C.
- Jones, Paul Sidney. Co. 2, E. O. T. C., Camp Humphreys, Va.
- Jones, Percival C. Corporal, Co. G, 23d U. S. Engrs., A. P. O. 716, A. E. F., France.
- Jones, Sidney G. Capt., Engr. R. C., Headquarters Co., 35th Engrs., A. P. O. 735, A. E. F., France.
- Jordan, Harry E. Capt., Q. M. C.
- Joseph, Jacob. Private, Meteorological Section, Sig. Cg, U. S. A.
- Jouine, G. P. F. Sous Lieut. au 81<sup>eme</sup> Regt. d'Artillerie, A. S. 14, par B. C. M., France.
- Judson, William V. Lt.-Col., Corps of Engrs., U. S. A.
- Kane, Daniel C. 1st Lieut., Engrs., N. A., 466th Pontoon Train.
- Kane, Irving P. Capt., Engr. R. C., Headquarters, 45th Engrs.
- Karnopp, Edwin B. Capt., Engr. R. C., 2d Bn., 22d Engrs.
- Kastenhuber, E. G., Jr. Capt., San. C., N. A.
- Kaufmann, Ernst G. Private, 499th Aero Squadron.
- Keenan, John T. Maj., Engr. R. C., 28th Engrs.
- Keith, Gerald Marcy. Lieut., Engr. R. C., Co. B, 116th Engrs., A. E. F., France.
- Keller, Charles. Col., Corps of Engrs., U. S. A.
- Kelly, Earl W. Capt., Engr. R. C.
- Kelly, Hugh Ambrose. Sergeant, Co. S, 312th Inf.

- Kelly, William. Col., Corps of Engrs., U. S. A., 117th Engrs., A. E. F., France.
- Kemp, John E. Capt., Engr. R. C.; Chf. Engr., Ordnance Dept. in France, Care, J. H. Hood, 4 rue d'Auber, Paris, France.
- Keys, Edward A. Capt., Engr. R. C., A. E. F., France.
- Khachadoorian, H. H. 1st Lieut., Engr. R. C., Co. C, 55th Engrs.
- King, Clifford M. Capt., Engr. R. C.
- King, Eric T. Maj., Q. M. C., N. A.
- King, Howard L. 2d Lieut., Engr. R. C., Co. B, 27th Engrs.
- King, Thomas R. 1st Lieut., Engr. R. C., A. E. F., France.
- King, W. S. Capt., Q. M. R. C.
- Kingsley, E. A. Maj., Engr. R. C., A. E. F., France.
- Kingsley, George. Capt., Engr. R. C.
- Kinne, G. W. Capt., Engr. R. C.
- Kinnear, Lawrence W. 2d Lieut., Sig. R. C., A. S.
- Kipp, Frederick M., Jr. 33d Engrs., U. S. A.
- Kirby, Luther H. Capt., Engr. R. C.
- Kissack, A. B. Capt., Engr. R. C., 515th Bn.
- Kitchen, Ernest. 1st Lieut., Engr. R. C.
- Kittredge, Frank A. Capt., 43d Engrs., A. E. F., France.
- Kitts, Joseph A. Capt., Engr. R. C., A. P. O. 726, A. E. F., France.
- Klink, J. H. Maj., Q. M. C., N. A.
- Cluegel, Harry A. Capt., Q. M. R. C.
- Knight, G. W. Capt., Engr. R. C., 46th Engrs., A. E. F., France.
- Kniskern, Philip Wheeler. Capt., Engr. R. C.
- Knollman, Enno P. Ensign, U. S. N. R. F.
- Knost, W. A. 1st Lieut., C. A. R. C.
- Koop, Louis D. Capt., Q. M. C., N. A.
- Krach, Fred R. Private, Co. A, 23d Engrs.
- Kreamer, A. W. 1st Lieut., Engr. R. C. (Unassigned).
- Krigbaum, Lowell G. 1st Lieut., Engr. R. C., Care, Director of C. and F., A. E. F., France.
- Kutz, Charles W. Brig.-Gen., N. A.
- La Bach, Paul M. Maj., Engr. R. C., A. E. F., France.
- Labsap, Alfred H. 1st Lieut., Engr. R. C., 114th Engrs.
- La Forge, Frederick W. Maj., Engr. R. C.
- Lake, Edward N. Maj., Q. M. C., N. A.
- Lamb, Lyman C. Capt., Engr. R. C.
- Lambert, Byron J. Maj., Engr. R. C., 23d Engrs. (Highway).
- Lamphere, Frank E. Col., Q. M. C., N. A.
- Lamson, William M. Maj., Engr. R. C., 306th Engrs.
- Lancashire, Forest H. Capt., Engr. R. C.
- Land, John T. Capt., Engr. R. C.

- Lansdale, John. Capt., Engr. R. C., Military Post Office No. 701, A. E. F., France.
- La Roche, Arthur L. 1st Lieut., Engr. R. C., A. E. F., France.
- Larrison, George K. Capt., Engr. R. C., Headquarters, Hawaiian Dept., U. S. A., Honolulu, Hawaii.
- Lathbury, Benjamin Brentnall. Maj., Ord. R. C.
- Latimer, C. A. 2d Lieut., Engr. R. C., Co. E, 3d Engrs., Corozal, Canal Zone, Panama.
- Laughlin, Harmon L. Capt., Engr. R. C.; Topographical Officer, 108th Engrs.
- Lavery, Samuel Perry. Regt. Sup. Sergeant, 316th Am. Tr.
- Lawrence, Frank Elmaker. Capt., 17th Engrs. (Ry.), A. E. F., France.
- Lawton, Richard M. Maj., Engr. R. C., A. E. F., France.
- Learned, A. P. 1st Lieut., San. C., N. A., Co. 28, Bn. 7.
- LeBaron, R. W. P. 1st Lieut., Co. C, 13th Engrs. (Ry.), A. E. F., France.
- Leckie, Alexander R. Capt., 111th Engrs., U. S. A.
- Lee, Alonzo Church. 1st Lieut., Inf. R. C., 17th Machine Gun Bn.
- Lee, Augustine L. Capt., Engr. R. C. (*Unassigned*).
- Lee, Charles A. Lieut. (Senior Grade), U. S. N. R. F.
- Lee, Charles H. 1st Lieut., Engr. R. C., A. E. F., France.
- Lee, John Louis. Maj., Q. M. C., N. A.
- Leeds, Charles T. Capt., U. S. A.
- Lehrbach, Henry G. Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).
- Leisen, Theodore A. Maj., Q. M. R. C.
- Leland, O. M. Lt.-Col., Engr. R. C., 303d Engrs., A. E. F., France.
- Lemen, William C. S. Capt., Engr. R. C.
- Leonard, O. Y. 1st Lieut., Ord. R. C.
- Letton, Harry P. Capt., Engr. R. C., A. E. F., France.
- Lewis, Charles Granville. Private, Co. A, 21st Engrs., A. E. F., France.
- Lewis, F. H. Maj., Engr. R. C.
- Lewis, Harold McLean. 2d Lieut., Co. A, 502d Engrs., A. E. F., France.
- Lewis, Luther H. Maj., Q. M. C., N. A.
- Libbey, V. B. Lieut., Engr. R. C., A. E. F., France.
- Lightner, George W. C. Capt. and Supply Officer, 21st Engrs. (Light Ry.), A. E. F., France.
- Lilly, Ridgely C. Lieut., Corps of Engrs. (*Unattached*), A. E. F., France.
- Lindhé, John B. Lieut., U. S. N. R. F., P. O. Box 781, Balboa, Canal Zone, Panama.
- Lineberger, Walter Franklin. Capt., Engr. R. C.



- Linsley, Charles Wells. Asst. Civ. Engr., U. S. N. R. F. (rank of Lieut. (Junior Grade)).
- Lipari, A. F. Private, A. S., Sig. C.
- Lisman, Oliver C. 1st Lieut., 519th Engrs.
- Livermore, Norman B. Capt., Engr. R. C., A. E. F., France.
- Livingston, Archibald R. Maj., Engr. R. C., 115th Engrs.
- Lockhardt, William Francis. 2d Lieut., Q. M. C., N. A.
- Lockwood, Richard J. 2d Lieut., F. A., U. S. N. A.
- Logan, Chester R. Capt., Co. C, 502d Engrs., A. E. F., France.
- Logan, Vernon L. 2d Lieut., N. A., 530th Engrs.
- Longley, Francis F. Lt.-Col., 26th Engrs., A. E. F., France.
- Lord, Arthur R. Capt., Engr. R. C.
- Louckes, Frank I. Capt., Engr. R. C., Inland Water Transportation Service, A. P. O. 702, A. E. F., France.
- Lovering, Harry D. 1st Lieut., Engr. R. C.
- Lowe-Brown, William L. Lt.-Col., R. E. (British Army), River Plate House, Finsbury Circus, London, E. C. 2, England.
- Lucas, E. W. Van C. Lt.-Col., 304th Engrs., N. A.
- Luiggi, Luigi. Col.; Insp. of Munition Factories in Central Italy, Via Boncompagni 17, Rome, Italy.
- Lumsden, Hugh J. Capt., Q. M. C., N. A.
- Lund, Alfred M. Maj., San. C., N. A.
- Lundgren, Leonard. Capt., 116th Engrs., A. P. O. 714, A. E. F., France.
- Lynch, John F. Capt., Engr. R. C., Co. D, 1st Bn., 1st Replacement Engrs.
- Lyon, George J. Capt., Engr. R. C.
- Lyon, Léon E. Capt., Engr. R. C., Office of Chf. Engr., Headquarters, A. E. F., France.
- Lyons, Harold C. 1st Lieut., Engr. R. C., Co. B, 1st Bn., 20th Engrs., A. E. F., France.
- MacDiarmid, Milo S. Maj., Engr. R. C.
- MacGlashan, Alexander. Maj., 104th Engrs., U. S. A.
- Macintosh, P. H. M. Capt., Tropical Force, Rabaul, New Guinea.
- Mackenzie, Leon R. Capt., Q. M. C.
- MacNaughton, Percival J. Asst. Civ. Engr., U. S. N. R. F.
- Macomb, John de N., Jr. Capt., Engr. R. C., A. E. F., France.
- McCalla, W. A. Maj., Engr. R. C., 504th Engr. Bn. (Service), A. E. F., France.
- McCandliss, Edgar S. Capt., Engr. R. C., 314th Engrs., N. A.
- McCandliss, L. C. 1st Lieut., Co. D, 15th Engrs. (Ry.), Field Headquarters, A. E. F., France.
- McClellan, George Thomas. Capt., Engr. R. C., 29th Engrs., A. E. F., France.

- McClellan, George A. Lieut., Sig. C.
- McClintock, Hallett Edward. Capt., Engr. R. C., Care, D. C., and F., A. P. O. 717, A. E. F., France.
- McClure, Hunter. 1st Lieut., Engr. R. C.
- McComb, Dana Quick. Capt., Engr. R. C., 3d Engrs., Fort Mills, Corregidor, Philippine Islands.
- McConnell, Edward Herbert. 1st Lieut., Engr. R. C., A. E. F., France.
- McCullough, Ernest. Maj., Engr. R. C., Gas Service, Headquarters, A. E. F., France.
- McDermith, Oro. Capt., Engr. R. C.
- McDonald, Harry L. Capt., Engr. R. C.
- McDonnell, Francis R. Lieut. (Junior Grade), U. S. N. R. F.
- McDonough, Michael J. Col., 114th Engrs.
- McFarland, H. F., Jr. 1st Lieut., Co. F, 12th Engrs. (Ry.), A. E. F., France.
- McGee, Arthur B. Sergeant, Ord. Dept., N. A.
- McGee, Harold G. 1st Lieut., San. C., N. A.
- McGee, Roger K. Capt., Engr. R. C.
- McGeehan, Paul. Capt., Co. D, 12th Engrs. (Ry.), A. E. F., France.
- McGlathery, Sam L. Capt., Engr. R. C., 312th Engrs.
- McGregor, Robert Roy. Capt., 21st Engrs.
- McGrew, John A. Maj., Q. M. R. C.
- McIntosh, Samuel F. Capt., Ord. R. C.
- McKay, George A. Civ. Engr., U. S. N. (rank of Commander).
- McKenney, Charles A. Maj., Engr. R. C.
- McKinstry, Charles Hedges. Brig.-Gen., N. A., 67th F. A. Brigade, A. E. F., France.
- McLane, G. L. Capt., Engrs., U. S. A.; Adj., 110th Engrs.
- McLoud, Paul. 1st Lieut., Engr. R. C., Co. F, 11th Engrs., A. E. F., France.
- McMeekin, Charles William. Maj., Engr. R. C.
- McMillan, W. Bruce. 1st Lieut., Engr. R. C., A. E. F., France.
- McMullen, Clements. Lieut., Sig. R. C., A. S.
- McNayr, George E. 2d Lieut., Engr. R. C., 33d Engrs.
- McRae, H. C. 1st Lieut., Engr. R. C., 45th Engrs., A. E. F., France.
- Machen, Henry B. Maj., Ord. R. C.
- Maddock, Thomas. 1st Lieut., 43d Engrs.
- Maddox, L. R. Capt., 17th Engrs., N. A., Regulating Station "A," Supply Office, U. S. P. O. No. 712, A. E. F., France.
- Mahon, John M., Jr. Capt., San. C., N. A.
- Mail, Eugene Frederick. 1st Lieut., Engr. R. C., 4th Engrs.
- Malloy, John Michael. Lieut., 342d F. A.

- Malsbury, Omer Evert. Capt., Engr. R. C., 3d Engrs., Corozal, Canal Zone, Panama.
- Maltby, Frank B. Maj., Engr. R. C.
- Mandigo, Clark R. Capt., Engr. R. C., 314th Engrs.
- Mangold, John Frederic. Capt., Engr. R. C. (*Unassigned*).
- Manning, William J. H. 2d Lieut., Engr. R. C., 52d Engrs., A. E. F., France.
- Mansfield, Newton. Lt.-Commander, U. S. N. (*Retired*).
- March, George Miles. 1st Lieut., 507th Engrs.
- Marks, Edwin H. Lt.-Col., Corps of Engrs., U. S. A., 20th Engrs.
- Marrian, Ralph R. 2d Lieut., Engr. R. C., Co. B, 105th Engrs.
- Marshall, Robert B. Maj., Engr. R. C.
- Marston, Anson. Maj., Engr. R. C., 109th Engrs.
- Marx, Raymond. 2d Lieut., Co. K, 308th Inf., A. E. F., France.
- Maslen, Harold C. Ensign, U. S. N. R. F.
- Massei, Cæsar. Maj., N. A., 22d Engrs.
- Massey, George B. Lieut. (Junior Grade), U. S. N. R. F.
- Massey, Walter F. Private, Co. 15, Recruit Bn., 5th Engr. Tr. Reg., Camp Humphreys, Va.
- Masters, F. M. Maj., Ord. R. C.
- Maul, Theodore R. Capt., Q. M. R. C., A. E. F., France.
- Maur, Dabney H. Lt.-Col. Q. M. C., N. A.
- Maxson, Frank O. Civ. Engr., U. S. N. (*Retired*).
- Mayo, George. Capt., Corps of Engrs., U. S. A., 5th Engrs.
- Mazeau, Camille. 1st Lieut., 27th Co., L. I. S., C. A. C.
- Means, John S. 2d Lieut., Engr. R. C., 508th Service Bn.
- Mears, Frederick. Col., 31st Engrs., N. A., A. E. F., France.
- Melin, Reynold F. 1st Lieut., Ord. R. C.
- Mellon, Albert E. Capt., Heavy Artillery, A. E. F., France.
- Melton, Arthur Pomeroy. Capt., Engr. R. C., Headquarters, Lines of Communication, A. E. F., France.
- Mendenhall, Herbert D. Capt., Engr. R. C., A. E. F., France.
- Menefee, Ferdinand N. Capt., Ord. R. C.
- Mengel, Carl W. 1st Lieut., Engr. R. C., Co. B, 306th Engrs.
- Merriam, C. A. Capt., Engr. R. C.
- Mershon, Ralph D. Maj., Engr. R. C.
- Messer, Richard. Maj., Q. M. C., N. A.
- Miles, George Frederick. Capt., Engrs. N. A.; Adj., 8th Bn., 20th Engrs., A. E. F., France.
- Milhan, David N. 1st Lieut., Engr. R. C., Co. F, 106th Engrs.
- Milkowski, V. J. 2d Lieut., Engr. R. C.
- Miller, Charles H. Maj., Engr. R. C., 23d Engrs., 2d Bn., A. E. F., France.

- Miller, Daniel C. 1st Lieut., Engr. R. C.  
Miller, George S. Maj., Engr. R. C.  
Miller, Hugh. Capt., Engr. R. C.  
Miller, John O. 2d Lieut., Inf. N. A.  
Millis, John. Col., Corps of Engrs., U. S. A.  
Mills, A. P. Capt., Engr. R. C.  
Mills, Guy G. Capt., Engr. R. C.  
Miner, Erwin J. Capt., Engr. R. C., 528th Engrs., Service Bn.  
Minniss, George S. Maj.; Q. M., 2d Brigade, Army Troops.  
Mitchell, Charles H. Lt.-Col., D. S. O., C. M. G., General Staff Headquarters, 2d Army, B. E. F., Care, Army Post Office, London, England.  
Molitor, Frederic. Lt.-Col., N. A.  
Moller, Irving C. Maj., Engr. R. C., 23d Engrs.  
Moncrieff, John M. Lt.-Col., C. B. E., R. E., 17 Waterloo Pl., London, S. W., England.  
Monk, Percy S. 1st Lieut., Engr. R. C., Co. F, 604th Engrs., A. E. F., France.  
Monroe, Robert A. 1st Lieut., Engr. R. C., 4th Engrs.  
Montgomery, Albertis. 1st Lieut., Engr. R. C.  
Moore, Lewis E. Capt., Engr. R. C., A. E. F., France.  
More, Charles C. Capt., Ord. R. C.  
Morelock, John Earl. Lieut., Engr. R. C., Care, Engr. Purchasing Office, U. S. P. O. 702, A. E. F., France.  
Morey, Edward F. Capt., F. A. R. C.  
Moriarty, Clarence. 1st Lieut., Engr. R. C.  
Morrow, B. S. Capt., Engr. R. C.  
Morrow, Jay J. Col., Corps of Engrs., U. S. A., 4th Engrs., A. E. F., France.  
Morrow, Samuel Roy. 1st Lieut., Engr. R. C.  
Morton, L. L. Capt., Engr. R. C., Co. A, 7th U. S. Engrs., A. E. F., France.  
Moss, Castle P. Corporal (Reg. No. 2213329), No. 3 Co., 6th Bn., Canadian Ry. Troops, B. E. F., France.  
Moss, William B. Capt., Engr. R. C., Co. D, 528th Engrs.  
Mower, Harrison C. Lt.-Col., Headquarters Staff, 307th Engrs., A. E. F., France.  
Muckleston, H. B. Capt., 1st Bn., Canadian Ry. Troops, B. E. F., France.  
Muenster, R. A. Science and Research Div., Sig. C., A. S.  
Muirhead, J. H. H. Lieut., Royal Engrs.  
Muñoz, Gonzalo C. Maj., Ord., N. A.  
Murphy, Alvin R. Capt., Engr. R. C., Water Supply Service, A. E. F., France.  
Murphy, Fred E. Capt., Ord. Dept., U. S. A.

- Murphy, James J.** Capt., Engr. R. C., Co. D, 523d Engrs., A. E. F., France.
- Murray, Everett B.** Capt., Engr. R. C., Co. A, 314th Engrs.
- Musham, John William.** Capt. Engr. R. C., Co. A, 513th Engrs., A. P. O. No. 738, A. E. F., France.
- Myers, E. T. D., Jr.** Maj., Ord. R. C.
- Nagler, Floyd A.** Private, Science and Research Dept., Sig. C., A. S., Meteorological Section.
- Nance, A. W.** 2d Lieut., Ord. C., N. A.
- Nash, F. D.** 1st Lieut., 12th Engrs. (Ry.), A. E. F., France.
- Needham, E. S.** Private, Co. A, 43d Bn., 20th Engrs.
- Neel, Arthur Wood.** 1st Lieut., R. T. C. N. A., Headquarters, Transportation Dept., U. S. A. P. O. No. 717, A. E. F., France.
- Nelson, Clarence L.** Capt., C. A. C., Headquarters, 1st Brigade, A. E. F., France.
- Neuman, David L.** Capt., Corps of Engrs., U. S. A., 5th U. S. Engrs.
- Neville, C. W. J.** Lt.-Commander, U. S. N. N. V.
- Newhall, William Barrett.** Capt., Engr. R. C.
- Newton, Jewett B.** Capt., F. A. R. C.
- Newton, John P.** Capt., Engr. R. C., A. P. O. 731, A. E. F., France.
- Nial, William A.** Capt., Engr. R. C.
- Nichols, Arthur C.** Sergeant, Co. B, 45th Engrs., U. S. N. A.
- Nichols, Charles H.** Maj., Engr. R. C.
- Niles, Alfred Salem, Jr.** 2d Lieut., Corps of Engrs., U. S. A.
- Nimmo, James Valence.** Capt., Royal Engrs., Care, Henry S. King & Co., 9 Pall Mall, London, W., England.
- Nixon, Courtland.** Maj., U. S. A.
- Noble, Guy L.** Capt., Q. M. C., N. A.
- Nolan, S. F.** Maj., C. A. C., N. G.
- Noland, C. P.** Capt., Engr. R. C., 1st Engrs., A. E. F., France.
- North, Robert G.** Capt., 605th Engrs.
- Noska, G. A.** Capt., Engr. R. C., 303d Engrs. (Sappers).
- Noyes, Arthur Page.** Capt., Engr. R. C., A. E. F., France.
- Noyes, Stephen Henley.** 1st Lieut., Sig. R. C., A. S., 1st Aero Squadron, A. E. F., France.
- Oakes, John C.** Col., U. S. A., 5th Engrs.
- Odoni, Vincent P.** Ensign, U. S. N. R. F.
- Ogden, Merton M.** 1st Lieut., Engr. R. C., 33d Engrs.
- Okes, Day I.** Capt., Engr. R. C., and Adj., 42d Engrs.
- Olberg, Charles R.** Capt., Engr. R. C.
- O'Meara, Robert J.** 1st Lieut., 26th Engrs.
- Openshaw, John E.** Lieut., Canadian Engrs., C. E. F.; 88 Church Hill, Westmount, Que., Canada.
- Opdycke, Henry G.** Maj., Sig. C., U. S. A.

- Orbeck, M. J.** 1st Lieut., Engr. R. C.; Bn. Adj., 528th Engrs., Service Bn.
- O'Rourke, Bernard J.** 1st Lieut., Sig. R. C., A. S., 5th Constr. Bl. Co., U. S. Air Service, 35 Eaton Pl., London, S. W., 1, England.
- Ort, A. A. L.** Asst. Civ. Engr., U. S. N. R. F.
- Osborne, George F. F.** Maj., Royal Engrs. (British Army); 221 George St., Toronto, Ont., Canada.
- Ostrom, C. D. Y.** Capt., C. A. C., U. S. A., Headquarters, 64th Artillery, A. E. F., France.
- Ostrup, John C.** Maj., Engr. R. C.
- Outwater, Herbert Gregor.** Capt., San. C., N. A.
- Oxer, George C.** Maj., Engr. R. C., A. E. F., France.
- Pagon, William Watters.** Capt., Q. M. C., N. A.
- Painter, Pennell C.** 1st Lieut., Engr. R. C., Co. D, 524th Engrs., Service Bn.
- Palmer, Wallace C. A.** Capt., Engr. R. C. (*Unassigned*), Cebu, Cebu, Philippine Islands.
- Parker, Henry B.** Paimboeuf, Loire, Inf., Care, Postmaster, New York City.
- Parker, James.** 1st Lieut., 13th Cav., U. S. A.
- Parker, William E.** Lt.-Commander, U. S. N. R. F.
- Parks, C. W.** Civ. Engr., U. S. N. (rank of Rear-Admiral); Chf. of Dept. of Yards and Docks, Navy Dept.
- Parsons, Archibald Livingstone.** Civ. Engr., U. S. N. (rank of Commander).
- Parsons, William Barclay.** Lt.-Col., 11th Engrs. (Ry.), A. E. F., France.
- Partridge, John F.** Lieut., Engr. R. C., Co. I, 23d Engrs., A. E. F., France.
- Patrick, M. M.** Brig.-Gen., N. A., A. E. F., France.
- Patterson, C. S.** Lieut., Engr. R. C., 113th Engrs.
- Patterson, Laurence.** Sergeant, Co. A, 102d Engrs.
- Payne, Edwin V. R.** Maj., Engr. R. C., 1st Bn., 25th Engrs.
- Payne, Louis W.** Master Engr., Senior Grade, Headquarters Co., 2d Bn., 22d Engrs., A. E. F., France.
- Pearce, R. B.** 1st Lieut., Engr. R. C.
- Pease, H. T.** Capt., 316th Trench Mortar Battery.
- Peck, John S.** Private, U. S. A. S. M. A., Photo. Div.
- Peck, Myron Hall.** Capt., Engr. R. C.
- Pennell, J. Roy.** Capt., Engr. R. C., Co. A, 117th Engrs., A. E. F., France.
- Pense, E. H.** Lieut., Canadian Corps, Tramway Co. No. 2, C. E., B. E. F., France.
- Perkins, A. H.** Capt., Engr. R. C., 17th Engrs. (Ry.), A. E. F., France.



- Perkins, Roscoe, Jr. Candidate, F. A. Central Officers' Training School, Camp Zachary Taylor, Ky.
- Perkins, Seth, Jr. 2d Lieut., F. A. R. C., 11th Field Artillery.
- Perrin, Lester W. Capt., 301st Inf.
- Perrine, George. Maj., Q. M. C., N. A.
- Perry, Arthur Franklin, Jr. 2d Lieut., Battery B, 64th Artillery, C. A. C.
- Perry, Charles E. Capt., Engr. R. C.
- Perry, F. W. Capt., Engr. R. C., A. E. F., France.
- Perry, Lynn E. 1st Lieut., San. C., N. A.
- Peters, Albert A. Maj., Engrs. N. A., Regimental Headquarters, 23d Engrs., U. S. A. P. O. 708, A. E. F., France.
- Phalan, J. J. F. 1st Lieut., Engr. R. C.
- Phillips, Hector S. Lieut., E. T. D., St. Johns, Que., Canada.
- Phillips, J. H. Maj., Q. M. C., N. A.
- Phillips, Walter B. Capt., Q. M. C., N. A.
- Phipps, T. E. Capt., Engr. R. C.
- Pickett, Frank Hurd. 1st Lieut., Engr. R. C., 1st Replacement Engrs.
- Pierce, Charles W. Civ. Engr., U. S. N., U. S. S. *Nebraska*.
- Pierce, P. L. Lt.-Col., Ord. Dept., N. A., Care, C. P. O., U. S. Army P. O. 702, A. E. F., France.
- Pierce-Hope, John. (French Army), Conducteur, S. S. A., Convoi d'Automobiles, B. C. M., Paris, France.
- Pill, Leon Morley. Capt., Engr. R. C.; Adj., 1st Bn., 20th Engrs., A. E. F., France.
- Pillsbury, G. B. Col., 115th Engrs.
- Pirnie, H. Malcolm. Lieut.; Asst. Engr., Headquarters, Director-General of Transportation, A. E. F., France.
- Plank, David Harlan. 1st Lieut., Engr. R. C., Co. B, 310th Engrs.
- Poole, J. H. Maj., 16th Engrs., A. E. F., France.
- Poorman, A. P. Capt., Co. A, 29th Engrs.
- Post, A. J. Sergeant, Q. M. C.
- Post, William S. Maj., Engr. R. C., 316th Engrs.
- Potter, Charles L. Col., Corps of Engrs., U. S. A.
- Powell, A. O. Maj., Engr. R. C.
- Powell, H. J. Bingham. Staff Officer, British Ministry of Munitions in United States, 165 Broadway, Room 2700, New York City.
- Powell, Thomas J. Capt., Engr. R. C.; Topographical Officer, 305th Engrs.
- Powell, W. J. Capt., Engr. R. C., Co. A, 66th Engrs.
- Powelson, W. V. N. Lieut., U. S. N. (*Retired*).
- Praeger, Emil. Asst. Engr., U. S. N. (rank of Lieut. (Junior Grade)).
- Pratt, Arthur H. Capt., Co. B, 26th Engrs., A. E. F., France.
- Preston, Harry L. Capt., Engr. R. C., 22d Engrs.
- Price, Philip W. Lieut., 3d U. S. Field Artillery.

- Price, T. E. Lieut., C. E. F., Army Depot, Purfleet, Essex, England.
- Prichett, Frederic B. Lieut., 109th Field Artillery, Headquarters Co., 28th Div., A. E. F., France.
- Pritchard, J. C. 1st Lieut. Engr. R. C., 26th Engrs.
- Proctor, R. F. Maj., Q. M. R. C.
- Puckett, Homer. Capt., Engr. R. C.
- Pugh, Marshall R. Maj., 21st Engrs. (Light Ry.), A. E. F., France.
- Pulligny, J. L. de. (Commandant); Chef de Bataillon du Genie Horscardres, French Army, 40 rue Barbey de Jouy, Paris, VII, France.
- Pung, William Sing-Chong. 2d Lieut., Engrs., N. A.
- Purcell, Stuart. Capt., Engr. R. C.
- Quilty, T. Frank. Maj., Engr. R. C.
- Quinby, Edwin R. Headquarters, A. E. F., France.
- Quinlan, George A. Maj., 113th Engrs.
- Quinn, John I. 1st Lieut., Engr. R. C., 116th Engrs., A. E. F., France.
- Quinn, Matthew F. Capt., Engr. R. C., 501st Engrs.
- Quinn, Richard. Maj., Engr. R. C. (*Unassigned*), Honolulu, Hawaii.
- Quinn, Thomas F. 1st Lieut., Engr. R. C., 15th Engrs., U. S. A. P. O. 741, A. E. F., France.
- Rader, James W. 2d Lieut., A. S. Sig. R. C.
- Rakestraw, C. L. 1st Lieut., Engr. R. C., 4th Engrs.
- Randolph, John Hampden, Jr. Capt., Engr. R. C., 103d Engrs.
- Randolph, Robert Isham. Maj., Engr. R. C., 23d Engrs.
- Ranney, Alfred Gardner. Capt., Battery A, 65th Artillery, C. A. C.
- Rathjens, George W. Lt.-Col., N. A., 313th Engrs.
- Ream, Ward H. 1st Lieut., Engr. R. C., Co. C, 305th Engrs., A. E. F., France.
- Reding, James H. Capt., U. S. N. G., Co. A, 112th Engrs.
- Reed, Howard S. Capt., Engr. R. C.
- Reed, Paul Lyon. Civ. Engr., U. S. N. (rank of Commander).
- Reeder, Harry C. 1st Lieut., Engr. R. C.
- Rees, Bird Le Grand. Capt., Q. M. C., N. A.
- Reeves, Carl H. Maj., Q. M. C.
- Reeves, Glenn S. Co. G, 23d Engrs., A. P. O. 716, A. E. F., France.
- Reilly, Charles G. Lieut., Co. D, 313th Inf., A. E. F., France.
- Renshaw, Alfred. Capt., Engr. R. C., Headquarters Co., 302d Engrs., A. E. F., France.
- Reynolds, Leo F. Cadet Pilot, A. S., Sig. C., U. S. A.
- Reynolds, Ralph Whitney. 1st Lieut., Engr. R. C., 37th Engrs.
- Rhoades, Theodore E. Capt., Engr. R. C.
- Rhodes, Eric H. Lieut., Australian Field Engrs., France.
- Rice, John T. Capt., Engr. R. C.

- Rich, Melvin S. 1st Lieut., Engr. R. C., G. P. A., Labor Bureau,  
A. P. O. 702, A. E. F., France.
- Richards, Walter A. 1st Lieut., A. E. F., France.
- Richardson, F. H. Capt., Engr. R. C.
- Richardson, James H. Capt., Engr. R. C.
- Richardson, R. D. Capt., Engr. R. C.
- Riché, Charles S. Col., Corps of Engrs., U. S. A.
- Richmond, Allen P. 1st Lieut., F. A. R. C., 301st Trench Mortar  
Battery.
- Richmond, Julian P. W. Civ. Engr., U. S. N. R. F. (rank of Lieut.),  
32 rue Fontaine St. Georges, Paris, France.
- Richmond, W. S. Capt., Engr. R. C. (*Unassigned*).
- Riddle, William C. Capt., San C.
- Ridgeway, George A. 1st Lieut., 23d Engrs.
- Riney, Arthur Herbert. Capt., Engr. R. C., Co. A, 28th Engrs.,  
A. E. F., France.
- Ripley, Blair. D. S. O.; Lt.-Col., 1st Bn., Canadian Ry. Troops,  
B. E. F., France.
- Ripley, Theron M. Maj., Engr. R. C.
- Risley, W. I. Capt., Engr. R. C., 504th Engr. Bn., A. E. F., France.
- Ritchie, J. Milton. Capt., Q. M. R. C.
- Ritow, Herman, Co. B, 302d Engrs., A. E. F., France.
- Ritter, Rollin. Capt., 130th Field Artillery.
- Roberts, Harry A. Capt., Engr. R. C.
- Roberts, Leo Bond. Lieut., Engr. R. C., 25th Engrs.
- Robertson, A. K. Lieut., Royal Anglesea R. E., No. 3 (Ry. Cos.),  
France.
- Robertson, Fonzie E. Lieut., F. A. R. C.
- Robinson, Edward W. Capt., Engr. R. C.
- Robinson, Ernest F. Capt., 102d Engrs.
- Robinson, John Harvey. Private, Co. B, 314th Machine Gun Bn.,  
A. E. F., France.
- Robinson, William Ernest. Lieut., Engr. R. C., Co. E, 1st Engrs.,  
U. S. A., A. E. F., France.
- Robson, Frederick T. Capt., Engr. R. C.
- Robson, Ralph E. Capt., Engr. R. C., 316th Engrs.
- Roby, Harrison G. Civ. Engr., U. S. N. R. F. (rank of Lieut. (Senior  
Grade)).
- Rockenbach, S. D. Brig.-Gen., N. A., G. H., A. E. F., France.
- Rockhold, J. E. 1st Lieut., Co. E, 117th Engrs., A. E. F., France
- Rogers, Lester Cushing. 333d F. A.
- Ropes, E. H. Lt.-Col., Engrs., N. A.
- Rose, W. H. Col., Corps of Engrs., U. S. A.
- Rosenfeld, James R. 2d Lieut., Engr. R. C., Co. D, 26th Engrs.

- Rosher, Edward Marshall. Capt., O. C., Maintenance, Care, Asst. Director of Rys. Baghdad, Mesopotamia.
- Ross, James G. Capt., Co. C, 306th Engrs.
- Ross, Thomas A. Capt., Royal Engrs.; Golfers' Club, 2 A, Whitehall Courts, London, S. W., England.
- Rossell, Paul Francis. Capt., Engr. R. C.; Adj't., 2d Bn., 23d Engrs., A. E. F., France.
- Rothrock, W. P. Maj., Engrs., N. A.
- Rousseau, Harry Harwood. Civ. Engr., U. S. N. (rank of Rear-Admiral).
- Rowe, Donald H. Lieut., Engr. R. C.
- Royal, Joseph N. 2d Lieut., Engr. R. C., 53d Engrs.
- Royall, Edward M. Asst. Civ. Engr., U. S. N. R. F.
- Ruggles, Arthur V. Capt., Engr. R. C., 17th Engrs., A. E. F., France.
- Russell, William Hepbourne. 1st Lieut., 5th F. A.
- Ruth, Edgar K. Capt., Engr. R. C.
- Ryland, Reis J. 2d Lieut., Sig. C., U. S. A., 323d Field Sig. Bn.
- Sacks, Samuel I. Officers' Material C., U. S. N. R. F.
- Sadler, Carl L. Capt., Engr. R. C.
- Sadler, Walter Clifford. 1st Lieut., Co. F, 18th Engrs. (Ry.), U. S. Army P. O. No. 705, A. E. F., France.
- St. John, R. U. 2d Lieut., Sig. R. C., A. S.; Information Officer, 95th Aero Squadron, A. E. F., France.
- Salisbury, Alfred J., Jr. 1st Lieut., A. S. P., N. A., Aero Squadron No. 498.
- Sample, William D. Corporal, 60th Trench Mortar Battery, B. E. F., France.
- Sanger, Walter M. Capt., Engr. R. C., A. E. F., France.
- Sargent, Edward H. Capt., Engr. R. C., 116th Engrs., A. E. F., France.
- Sargent, J. A. Capt., Engr. R. C., Care, Headquarters, Lines of Communications, A. E. F., France.
- Scammell, John Kimball. Lieut., 13th Reserve Bn., Canadian, Seaford, Sussex Co., England.
- Schanck, F. R. Capt., Ord. R. C.
- Scharff, Maurice R. 1st Lieut., Engr. R. C.; Office, D. C. and F., S. O. U., S. O. S., A. E. F., France.
- Scheidenhelm, F. W. Capt., Engr. R. C., Care, Chf. Engr., A. E. F., France.
- Schermerhorn, Richard, Jr. Capt., San. C., U. S. N. A.
- Schmucker, Beale M. 1st Lieut., U. S. N. G., 104th Engrs.
- Schoder, Ernest W. Capt., Engr. R. C.
- Scholtz, H. F. Capt., Engr. R. C.
- Schoonmaker, Leon M. Capt., Engr. R. C.
- Schroeder, Seaton, Jr. Asst. Civ. Engr., U. S. N. R. F.

- Schwartz, Lloyd. Acting Master Gunner, Headquarters Co., 72d Artillery Regt.
- Schwendener, K. DeW. Capt., 115th Engrs.
- Scudder, Charles Morrison. Capt., Co. E, 107th Engrs., A. E. F., France.
- Scudder, Henry D., Jr. 2d Lieut., U. S. G. N. A.
- Seage, Clarence E. Ensign, U. S. N.
- Searight, George P. 1st Lieut., Engr. R. C., Co. B, 27th Engrs., A. E. F., France.
- Seelye, Seth H. Co. G, 23d Engrs., A. E. F., France.
- Selander, John E. Maj., Royal Engrs., Care A. D. Rys., B. E. F., Italy.
- Senior, Frank S. Maj., R. T. C. (N. A.), Care, Director General of Transportation, A. E. F., France.
- Sessler, Grover C. Asst. Civ. Engr., U. S. N. R. F.
- Seward, Oscar A., Jr. Capt., Engr. R. C., 315th Engrs.
- Sewell, John Stephen. Col., Engrs., N. A., Military P. O. No. 701, A. E. F., France.
- Sexton, George F. Sergeant, 1st Class.
- Seymour, Horatio. 1st Lieut., Ord. R. C.
- Shafer, Ernest Alton. 1st Lieut., Engr. R. C.
- Shafer, J. C. F. Capt., C. A. R. C., A. E. F., France.
- Shankland, Ralph Graham. 1st Lieut., Engr. R. C.
- Shaw, Arthur Lassell. Capt., Engr. R. C., 301st Engrs.
- Shaw, Arthur M. Maj., Engr. R. C., Mech. Repair Unit No. 305.
- Shaw, Franklin Dickinson. Capt., Engr. R. C.
- Shearer, D. McD. Capt., Engr. R. C., 604th Engrs.
- Sheley, Horace W. Capt., Engr. R. C.
- Shepard, George Milson. Capt., Co. D, 3d U. S. Engrs., Schofield Barracks, Honolulu, Hawaii.
- Sheppard, Norman K. Master Engr., Junior Grade, Headquarters Co., 313th Engrs.
- Sheridan, L. V. Sergeant, F. A., Saumur Artillery School, U. S. A. P. O. 718, A. E. F., France.
- Sibert, William L. Maj.-Gen., U. S. A.
- Silsbee, J. A. 1st Lieut., Ord. R. C.
- Silvernail, Alfred Kimberly. 1st Lieut., Q. M. C., N. A.
- Skelly, J. W. Capt.; Supply Officer, 12th Engrs. (Ry.), A. E. F., France.
- Sleight, Reuben Benjamin. Lieut., Sig. C., U. S. A.
- Sleppy, K. B. Capt., 4th U. S. Engrs.
- Slifer, Hiram J. Lt.-Col., 21st Engrs. (Light Ry.), A. E. F., France.
- Sloan, William Glenn. 1st Lieut., Engr. R. C. (Unassigned).
- Sloan, William Griffith. Maj., Engr. R. C.
- Small, James H., Jr. Maj., Q. M. C., N. A.

- Smallman, R. A. Capt., Co. F, 25th Engrs., A. E. F., France.  
Smead, R. C. Maj., Engr. R. C. (*Unassigned*).  
Smillie, Ralph. Ensign, U. S. N., U. S. S. *Massachusetts*.  
Smith, Albert. Maj., 2d Bn., 309th Engrs.  
Smith, Alexander Crawford, Jr. 1st Lieut., Engr. R. C., Truck Co. No. 10, 23d Engrs., A. E. F., France.  
Smith, Charles E. Maj., Q. M. C., N. A.  
Smith, Chester Alexander. Capt., San. C., N. A.  
Smith, Chester K. Capt., Engrs., N. A., Care, Director of Constr. and Forestry, Headquarters, S. O. S., A. E. F., France.  
Smith, Claire Howland Wallace. 1st Lieut., Engr. R. C. (*Unassigned*), A. E. F., France.  
Smith, Clarence Urling. Capt., Co. E, 107th Engrs., A. E. F., France.  
Smith, Clarke Stull. Col., Corps of Engrs., U. S. A., Headquarters, 311th Engrs.  
Smith, Earl Audie. 1st Lieut., Engr. R. C.  
Smith, Edward King. 2d Lieut., Sig. R. C.  
Smith, Francis M. Capt., Engr. R. C., Headquarters, 59th Engrs. (Ry.), U. S. A. P. O. 708, A. E. F., France.  
Smith, Layton Fontaine. Lieut., U. S. N. R. F.  
Smith, Maxwell W. Capt., Engr. R. C., Co. F, 308th Engrs., A. E. F., France.  
Smith, Merritt H. Col., 1st N. Y. Field Artillery, N. G. U. S.  
Smith, Richard B. Meteorological Section, A. S., Sig. C.  
Smith, Robert C. Maj., Q. M. C., N. A.  
Smith, S. M. 1st Lieut., Co. D, 12th Engrs. (Ry.), A. E. F., France.  
Smith, W. W. Master Engr., 16th Engrs. (Ry.), A. E. F., France.  
Smoot, Lloyd D. Capt., Q. M. C., N. A.  
Snell, Edward Beniah. 1st Lieut., Engr. R. C.  
Snodgrass, W. T. Sergeant, Co. C, 28th Engrs., A. E. F., France.  
Snook, Thomas E., Jr. 1st Lieut., Engr. R. C., Co. B, 306th Engrs.  
Snyder, Frederic Antes. Col., 103d Engrs.  
Snyder, George Duncan. Capt., 102d Engrs.  
Snyder, Hubert Earl. Capt., Engr. R. C.  
Soest, Hugo C. 1st Lieut., Engr. R. C., Co. A, 25th Engrs., A. E. F., France.  
Solomon, G. R. Maj., Engr. R. C.  
Sourwine, J. A. Capt., Engr. R. C.  
Spear, Philip H. Capt., Engr. R. C.  
Spear, Walter E. Maj., Q. M. R. C.  
Spencer, Charles B. Lieut., Care, Chf. Ord. Officer, P. O. 717, A. E. F., France.  
Spencer, Herbert. Capt., Engr. R. C., Co. H, 23d Engrs., A. E. F., France.



- Sperry, L. N. 1st Lieut., Engr. R. C., 6th U. S. Engrs., A. E. F., France.
- Sprague, H. M. 1st Lieut., Engr. R. C., Care, G. P. A., Labor Bureau, A. P. O. 702, A. E. F., France.
- Stafford, Fred D. Capt., Engr. R. C., 105th Engrs.
- Stallings, John R. Sergeant, Headquarters Co., 3d Anti-Aircraft Bn.
- Stanford, Homer R. Civ. Engr., U. S. N. (rank of Commander).
- Stanley, W. E. 1st Lieut., Engr. R. C., Co. B, 101st Engrs., A. E. F., France.
- Stanton, Charles B. Capt., Engr. R. C., Co. E, 15th Engrs. (Ry.). A. E. F., France.
- Stanton, W. L. 2d Lieut., N. A., 304th Engrs.
- Starr, F. Charles. Capt., Q. M. C., N. A.
- Starrett, William A. Col., Q. M. C., N. A.
- Stayton, Edward M. Maj., 110th Engrs.
- Stearns, Fred LeRoy. Lieut., Co. A, 107th Inf., U. S. A.
- Stearns, Ralph H. Lieut. (Junior Grade), U. S. N. R. F.
- Steep, James B. Capt., Engr. R. C.
- Steese, James Gordon. Lt.-Col., Corps of Engrs., U. S. A.
- Steeves, C. McN. Lieut., 9th Field Co., Canadian Engrs., B. E. F., France.
- Steinberg, Max. 1st Lieut., U. S. R., U. S. Coast and Geodetic Survey.
- Stellhorn, Adolf. Capt., Engr. R. C., Office, Chf. Engr., S. O. R., P. O. 717, A. E. F., France.
- Stem, Clifford H. 2d Lieut., Engr. R. C., 101st Engrs., L. of C., A. E. F., France.
- Stephens, Uel. Lieut., 57th U. S. Inf.
- Stern, Eugene W. Maj., Engr. R. C.; Supt. of Roads, Care, C. G. Base Section No. 2, U. S. Military P. O. 705, A. E. F., France.
- Stewart, John. Maj., Engr. R. C.
- Stewart, John T. Maj., Engr. R. C.
- Stickle, H. W. Lt.-Col., U. S. A. (Retired).
- Stillwell, Howard L. 2d Lieut., Q. M. C., N. A.
- Stineman, Norman M. Capt., Engr. R. C., 33d Engrs.
- Stivers, A. D. Capt., Inf. R. C.
- Storey, Franklin S. 1st Lieut., Engr. R. C., A. E. F., France.
- Stowe, H. D. Capt., Engr. R. C.
- Strachan, Joseph J. Asst. Civ. Engr., U. S. N. (rank of Lieut. (Junior Grade)).
- Strachan, Norman F. Private, 23d Engrs.
- Strecker, R. A. Capt., Engr. R. C., Co. A, 309th Engrs.
- Street, J. Z. Private, Specialist Detachment, Co. A, 26th Engrs., A. E. F., France.
- Strehan, George E. 2d Lieut., Battery E, 351st F. A.
- Strickler, G. B. Maj., Engr. R. C.

- Strickler, T. J. Capt., Engr. R. C.  
Stronach, Robert S. Lieut., 10th Field Co., Canadian Engrs., B. E. F., France.  
Stupp, John G. 1st Lieut., Ord. R. C.  
Sturtevant, C. W. Lt.-Col., 15th U. S. Engrs., A. E. F., France.  
Summers, R. E. J. 1st Lieut., Engr. R. C., Co. F, 16th U. S. Engrs. (Ry.), A. E. F., France.  
Suter, Russell. Capt., Engr. R. C., Care, S. E. O., Int. Sect., S. O. S., A. E. F., France.  
Sutton, Frank. Maj., Engr. R. C., 29th Engrs.  
Swaren, J. W. Capt., Engr. R. C., Headquarters, 318th Engrs. (Sappers), A. E. F., France.  
Swartz, Leon. Master Engr., 15th U. S. Engrs., A. E. F., France.  
Sweeney, Harry C. Capt., Q. M. R. C.  
Sweetser, C. H. Capt., Engr. R. C., Co. A, 43d Engrs., A. E. F., France.  
Sweetser, E. O. Capt., Engr. R. C. (*Unattached*), A. E. F., France.  
Swett, Everett H. Capt., Engr. R. C.  
Sykes, George. Capt., Engr. R. C., A. E. F., France.  
Symonds, G. R. B. Capt., Engr. R. C., Co. A, 605th Engrs.  
Tainter, F. S. Maj., Engr. R. C.  
Tate, R. L. 1st Lieut., Engr. R. C., 303d Engrs.  
Tay, S. W. Lieut., U. S. N. N. V., U. S. S. *Wenonah*.  
Taylor, Arthur. 1st Lieut., Engr. R. C.  
Taylor, Edwin A. Maj., Engr. R. C.  
Taylor, Harry. Brig.-Gen. N. A.; Chf. Engr., A. E. F., France.  
Taylor, Henry. Capt., Engr. R. C., 304th Engrs.  
Taylor, Hugh M. Maj., Care, D. G. T., A. P. O. 717, A. E. F., France.  
Taylor, Nelson. Lieut., U. S. N., U. S. S. *Bridgeport*.  
Taylor, P. M. 2d Lieut., R. E., 237th Field Co., B. E. F., Italy.  
Taylor, Seneca V. Capt., C. A. R. C.  
Taylor, William T. Capt., Royal Flying Corps, B. E. F., France.  
Taylor, Wyllys H. Capt., Engr. R. C., 306th Engrs., N. A.  
Ten Hagen, Henry. 2d Lieut., Engr. R. C., 303d Engrs.  
Tenney, Willis R. Capt., Engr. R. C., Eng. Depot, U. S. A. P. O. 712, A. E. F., France.  
Thomas, Charles D. Capt., Engr. R. C., Co. B, 507th Engrs., A. E. F., France.  
Thomas, W. E. Capt., San. C., N. A.  
Thompson, Sanford E. Maj., Progress Section, Office of Chf. of Ordnance, U. S. A.  
Thomsen, S. L. Capt., Engr. R. C., Co. A, 57th Engrs.  
Thomson, F. M. Capt., 39th Engrs., U. S. A., A. E. F., France.  
Throop, George H. Capt., Engr. R. C., Co. E, 24th Engrs.

- Thurber, Clinton D. Civ. Engr., U. S. N. (rank of Lt.-Commander).  
Thurston, Eugene T. Capt., Engr. R. C.  
Tilden, Charles Joseph. Capt., Engr. R. C. (*Unassigned*).  
Tinsley, R. B. Capt., Engr. R. C., Co. A, 605th Engrs.  
Tirrell, Charles Edwards. Sig. C., A. S. (Non-Flying).  
Todd, Frank Herbert. Maj., Q. M. R. C.  
Todd, Oliver J. Capt., Engr. R. C.; Adj., 3d Bn., 20th Engrs.,  
A. E. F., France.  
Tolles, F. C. 1st Lieut., Engr. R. C., 112th Engrs.  
Tomlinson, Alfred Thomas. Maj., Canadian Engrs.; Insp., Small  
Arms Ammunition, Dominion Arsenal, Lindsay, Ont., Canada.  
Tompkins, Robert Harry. 1st Lieut., 111th Engrs.  
Topping, Perry. Capt., Engr. R. C., 5th U. S. Engrs.  
Torrance, William M. Capt., Engr. R. C.  
Townsend, C. McD. Col., Corps of Engrs., U. S. A., 12th Engrs.  
(Ry.), A. E. F., France.  
Tracy, C. C. Capt., C. A. R. C.  
Tracy, Herbert Herman. 1st Lieut., Engr. R. C., Engr. Wagon Co.  
4, 23d Engrs., U. S. A. P. O. 708, A. E. F., France.  
Travers-Ewell, Andrew. Care, American Consul, Para, Brazil.  
Trimpi, Allan Littell. 1st Lieut., 104th Engrs.  
Trout, Alexander Linn. Capt., Engr. R. C. (*Unassigned*), A. E. F.,  
France.  
True, Albert O. Capt., Engr. R. C.  
Trueblood, P. McG. Lieut., U. S. N. R. F.  
Tucker, H. F. Ensign, U. S. N. R. F.  
Turley, Jay. Capt., Engr. R. C., Care, Eng. Purchasing Officer,  
P. O. No. 702, A. E. F., France.  
Turner, Daniel Norman. 2d Lieut., Engr. R. C., 304th Engrs.  
Turner, Nathaniel Parker. Capt., U. S. N. G.; Topographical Officer,  
111th Engrs.  
Tuska, Gustave R. Maj., Engr. R. C.  
Tyson, William C. Capt., Engr. R. C., Co. No. 2, Camp Custer Re-  
placement Draft, A. E. F., France.  
Uhler, W. D. Lt.-Col., Q. M. C., N. A.  
Van Buren, Maurice Pelham. Capt., Corps of Engrs., 602d Engrs.  
Vandemoer, N. C. Capt., Engr. R. C.  
Vandervoort, B. F. Capt., Engr. R. C.  
Vandevanter, Elliott. Capt., Engr. R. C., Co. D, 503d Engrs., A. E. F.,  
France.  
Van Ness, R. A. Lieut., Engr. R. C.  
Van Pelt, Sutton. Capt., Engr. R. C., 110th Engrs.

- Van Suetendael, Achille O. Capt., Engr. R. C.  
Van Zile, Harry Lee. Maj., Engr. R. C., A. E. F., France.  
Vaughan, Henry F. Capt., San. C., N. A.  
Verrill, George E. Maj., Engr. R. C.  
Vincent, W. H. 1st Lieut., Engr. R. C.  
Vogleson, J. A. Maj., San. C., N. A.  
Volk, Wendell Douglas. 1st Lieut., Engr. R. C., Co. E, 20th Engrs., A. E. F., France.  
von Deesten, A. P. Maj., Corps of Engrs., U. S. A.  
Wade, George W. 1st Lieut., Co. D, 2d Bn., 117th Engrs. 42d Div., A. E. F., France.  
Wadsworth, George R. Maj., Sig. C., U. S. A.  
Wadsworth, Henry H. Maj., Engr. R. C. (*Unassigned*).  
Wagner, John, Jr. 1st Lieut., Cav. R. C., First Corps School, Army P. O. No. 703, A. E. F., France.  
Waite, Clement F. 2d Lieut., Engr. R. C.  
Waite, H. M. Lt.-Col., R. T. C., N. A., Care, Railroad Transportation Corps, A. E. F., France.  
Waldron, Albert E. Col., 35th Engrs., U. S. A., A. E. F., France.  
Walker, Edward G. Lieut., Royal N. V. R., 78 Cheyne Court, Chelsea, London, S. W. 3, England.  
Walker, Elton D. Capt., Engr. R. C., Co. A, 5th U. S. Engrs., A. E. F., France.  
Walker, Harry Bruce. Capt., Engr. R. C.  
Walker, Meriwether Lewis. Col., Engrs., N. A., G. H. Q., A. E. F., France.  
Walker, W. Kemp. Capt., Engr. R. C.  
Wallace, David A. Capt., Engr. R. C., Headquarters, Director General of Transportation, A. P. O. 717, A. E. F., France.  
Wallace, Harold U. Maj., Engrs., N. A.  
Waller, Alexander C. 1st Lieut., Engr. R. C., 22d Engrs.  
Waller, Percy. Capt., Engr. R. C.  
Walton, H. B. Capt., Engr. R. C., 312th Engrs.  
Ward, George S. 2d Lieut., Engr. R. C., Co. A, 117th Engrs., A. E. F., France.  
Ward, Jasper D. Corporal, Co. C, 55th Inf.  
Ward, Lyman Wise. Capt., C. A. R. C.; Adj., 1st Bn., 63d Artillery, C. A. C.  
Ware, Howard T. 2d Lieut., Q. M. C., N. A., Bakery Co. No. 317.  
Ware, John. 1st Lieut., Co. A, 101st Engrs., A. E. F., France.  
Ware, Norton. Capt., Engr. R. C.  
Warfield, Ralph M. Civ. Engr., U. S. N. (rank of Lt.-Commander).  
Waring, C. T. Maj., Sig. R. C.

- Warner, Elwin S. Capt., Engr. R. C., Co. B, 301st Engrs.
- Warnock, W. H. Capt., Q. M. C., 14 A.
- Warren, Horace P. Maj., 55th Engrs., N. A., A. E. F., France.
- Warren, James G. Col., Corps of Engrs., U. S. A.
- Warren, Minton M. 1st Lieut., Engr. R. C., Headquarters Co., 101st Engrs., 51st Brigade, 26th Div., A. E. F., France.
- Warren, Philip R. Maj., Royal Engrs., P. O. E., A. P. O. S. 10, B. E. F., France.
- Watkins, Guy A. Capt., Engr. R. C.
- Watson, D. M. Lieut., M. T., A. S. C., 100th Siege Battery, R. G. A., B. E. F., France.
- Watson, George L. Capt., Co. B, 30th U. S. Engrs.
- Watson, Winslow B. Lieut., Co. C, 7th N. Y. Inf. (114th)
- Watt, David A. Maj., Engr. R. C.
- Waugh, William H. Maj., Engrs. N. A.
- Way, W. F. 2d Lieut., Co. D, 18th Engrs. (Ry.), U. S. Army Post Office No. 705, A. E. F., France.
- Weaver, C. J. 1st Lieut., Engr. R. C.
- Weaver, Earl Chase. Asst. Civ. Engr., U. S. N. R. F.
- Weaver, Frank L. Capt., Engrs. N. A., 305th Engrs.
- Webb, Claude A. Lieut., F. A. R. C., A. E. F., France.
- Webb, De Witt Clinton. Civ. Engr., U. S. N. (rank of Lt.-Commander).
- Webb, George H. Lt.-Col., 16th U. S. Engrs. (Ry.), A. E. F., France.
- Webb, I. Gano. Capt., Engr. R. C.
- Webb, Walter Loring. Maj., Engr. R. C., A. E. F., France.
- Webster, Maurice A. Capt., Ord. Dept., N. A.
- Weeks, W. C. Maj., Engrs., N. A., 32d Engrs., Care, Y. M. C. A. Hotel for Officers, Paris, France.
- Welles, Theodore L., Jr. 2d Lieut., Engr. R. C.
- Welsh, Russell D. Private, Co. F, 115th Engrs., A. E. F., France.
- Wenige, Arthur E. Maj., Engr. R. C., 317th Engrs.
- Wenzell, Andrew P. Capt., Co. F, 16th U. S. Engrs. (Ry.), A. E. F., France.
- West, Edward Hazzard. Capt., Engr. R. C., Co. F, 5th Engrs.
- Wheat, G. Neville. Capt., Engr. R. C.
- Wheeler, Frank L. 2d Lieut., Sig. R. C., A. S.
- Wheelock, De Forest A. Col., U. S. A.
- Whiteaker, Robert O. Capt., 132d Field Artillery.
- Whitman, Ezra B. Maj., Q. M. R. C.
- Whitman, Ralph. Civ. Engr., U. S. N. (rank of Lt.-Commander).

- Whitney, John T. 2d Lieut., F. A. R. C., 2d Corps Artillery Park, A. E. F., France.
- Whitney, Ralph Edward. 1st Lieut., San C., N. A.
- Whitwell, E. Capt., General Service Staff, British War Office, Robert Treat Hotel, Newark, N. J.
- Wickersham, John H. Maj., Engr. R. C., P. O. 706, A. E. F., France.
- Widdicombe, R. A. Maj., Engr. R. C.
- Widdicombe, Stacey H. U. S. S. M. A., Princeton, N. J.
- Wiggin, Thomas H. Capt., Engr. R. C., Care, Gen. Taylor, A. E. F., France.
- Wiggins, Ralph Raymond. 1st Lieut., Sig. R. C., A. S.
- Wilcox, Ernest Hardwick. Capt., Engr. R. C.
- Wild, H. J. Capt., Engr. R. C., 3d Engrs., Corozal, Canal Zone, Panama.
- Wildish, Frederic Newton. Capt., Engr. R. C., Co. B, 309th Engrs.
- Wilgus, W. J. Col., Engrs., N. A., A. E. F., France.
- Willard, George T. Private, Co. E, 318th Engrs.
- Willard, N. R. Capt., Engr. R. C.
- Williams, Alan F. 2d Lieut., Co. B, 18th Engrs. (Ry.), U. S. Army P. O. No. 705, A. E. F., France.
- Williams, Samuel W. Maj., Engr. R. C.
- Williamson, Harry. Capt., Royal Engrs., British Army; O. C. 272d Ry. Constr. Co., R. E., E. E. F., Egypt.
- Williamson, Lee H. 2d Lieut., Engr. R. C., Co. A, 55th Engrs.
- Williamson, Sydney B. Lt.-Col., Engrs., N. A.
- Williar, Harry D., Jr. 1st Lieut., 1st U. S. Engrs., A. E. F., France.
- Willis, Walter John. Lieut. (EDO).
- Wilson, Edbert C. Capt., Engr. R. C.
- Wilson, Everitt W. Capt., Engr. R. C., Co. A, 304th Engrs.
- Wilson, Harry P. Capt., Engr. R. C., 310th Engrs.
- Wilson, Robert B. M. Capt., Engr. R. C., 311th Engrs.
- Wilson, William R. Maj., 23d Field Co., R. E., B. E. F., France.
- Wing, Charles B. Maj., Engr. R. C., 23d Engrs., A. P. O. 708, A. E. F., France.
- Winn, Walter E. Lt.-Col., Engr. R. C., 114th Engrs.
- Winn, Walter S. Maj., Engr. R. C.
- Winton, Walter Ferrell. Capt., 14th U. S. Field Artillery.
- Wood, B. Russell. Capt., Engr. R. C. (*Unassigned*), U. S. M. P. O. 733, A. E. F., France.
- Wood, Frederic J. Maj., Engr. R. C.
- Woodard, Wilkie. Capt., Engr. R. C., Co. H, 35th Engrs., A. P. O. 735, A. E. F., France.
- Woodle, Bernon Tisdale. Capt., Engr. R. C.



**Woodruff, Glenn B.** 1st Lieut., Engr. R. C.  
**Woolworth, W. H.** Capt., U. S. A., Headquarters, 2d Brigade, 1st Div., A. E. F., France.  
**Wooten, William P.** Maj., Corps of Engrs., U. S. A.  
**Wright, John Bertram.** Capt., Engr. R. C.  
**Wrightson, William D.** Maj.; Chf. of San. C., U. S. A.  
**Yeo, Herbert W.** Capt., Engr. R. C.  
**Yereance, Alex. W.** 1st Lieut., Co. F, 305th Engrs., A. E. F., France.  
**Yost, Howard McC.** Capt., Engr. R. C.  
**Young, Frederick C.** Capt., Engr. R. C.; Adjt., 114th Engrs.  
**Young, George S.** Capt., Engr. R. C.  
**Young, Samuel M.** Capt., Engr. R. C.  
**Zinn, George A.** Col., Corps of Engrs., U. S. A.

## MEMBERSHIP

(From May 3d to August 8th, 1918)

## ADDITIONS

MEMBERS	Date of Membership.
ADAMS, ARTHUR. Maj., Ord. R. C.; Inspection Mgr., Albemarle Bldg., New York City...	Jun. Oct. 1, 1901 Assoc. M. April 6, 1904 M. June 19, 1918
AEGERTER, ALBERT AUGUST. 501 Stock Exchange Bldg., St. Louis, Mo.....	Assoc. M. Mar. 1, 1910 M. May 13, 1918
AUTEN, JOHN CUMMINGS. Prin. Asst. Engr., Southern Div., P. R. R., Room 409, Pennsylvania Bldg., Wilmington, Del.....	May 13, 1918
BAILEY, FRANK HARRISON. Hamilton, Mont.....	Jan. 14, 1918
BAKER, GEORGE EVERETT. Cons. Irrig. Engr.; City Engr., Whitehall, Mont.....	Assoc. M. Sept. 2, 1914 M. June 19, 1918
BLACKMAN, CHARLES HENRY. Prin. Asst. Engr., L. & N. R. R., P. O. Box 22, Anchorage, Ky.....	April 16, 1918
BORDEN, HENRY PERCY. Care, Dept., Rys. and Canals, Ottawa, Ont., Canada.....	May 13, 1918
BROMLEY, ALBERT HENRY, JR. Chf. Engr., Bldg. Materials Div., Berger Mfg. Co., Canton, Ohio.....	Assoc. Feb. 2, 1909 M. April 17, 1918
BROSSMAN, CHARLES. Secy.-Treas., Indiana Eng. Soc.; Cons. Engr., 1616 Merchants Bank Bldg., Indianapolis, Ind.....	June 18, 1918
BRUNTLETT, EUGENE HARRY. Constr. Engr., A. Guthrie & Co., Inc., Blue Island, Ill....	Jun. June 6, 1905 Assoc. M. June 30, 1910 M. June 19, 1918
BUTTERS, JOHN HENRY. Chf. Engr. and Gen. Mgr., Hydro-Elec. Dept., Tasmanian Govt., Box 5, G. P. O., Hobart, Tasmania.....	Mar. 12, 1918
CHANDLER, ELBERT MILAM. Chf. Engr., Naches Selah Irrig. Dist., 602 Miller Bldg., Yakima, Wash.....	Assoc. M. Oct. 1, 1912 M. June 19, 1918
CHORLTON, WILLIAM HARPER. Care, Am. Bridge Co., 30 Church St., New York City.....	June 18, 1918
CLEVERDON, FREDERICK ROBERT WHEELER. Contr. Engr.; Vice-Pres., Allen N. Spooner & Son, Inc., 50 Brookside Pl., New Rochelle, N. Y.....	May 13, 1918
DANIELS, THOMAS REMINGTON HOLDEN. Chf. Engr., Terre Haute, Indianapolis & East Traction Co., 212 Traction Terminal Bldg., Indianapolis, Ind.....	Assoc. M. Feb. 6, 1907 M. June 19, 1918
DAVID, THOMAS HENDRICKS. Asst. Chf. Engr., Indianapolis Traction & Terminal Co., 914 Traction Terminal Bldg., Indianapolis, Ind.....	June 18, 1918

MEMBERS (Continued)		Date of Membership.	
DAVIS, CHARLES MOSS. Engr. and Contr.	Jun.	Jan.	3, 1907
(B. F. & C. M. Davis), 407 Reynolds Bldg., Fort Worth, Tex.	Assoc. M.	Oct.	3, 1911
	M.	June	19, 1918
DAVIS, MEYER. Pacific Coast Mgr., Aspromet Co., 1007 Hobart Bldg., San Francisco, Cal.	Jun.	Sept.	3, 1913
	Assoc. M.	Aug.	31, 1915
	M.	May	13, 1918
EMERSON, FRANK COLLINS. Cons. Engr., Worland, Wyo.		May	13, 1918
FRANKLAND, FREDERICK HERSTON. Cons. Engr., Waddell & Son (Inc.), 35 Nassau St., New York City.	Assoc. M.	May	31, 1916
	M.	Mar.	12, 1918
GREGORY, CHARLES EMERSON. Mt. Kisco, N. Y.	Jun.	Oct.	6, 1896
	Assoc. M.	Mar.	6, 1901
	M.	June	19, 1918
HAEHL, HARRY LEWIS. (Duryea, Haebl & Gilman), 1317 Humboldt Bank Bldg., San Francisco, Cal.	Jun.	Oct.	6, 1903
	Assoc. M.	July	9, 1906
	M.	June	19, 1918
HARDMAN, ROY CORDIS. Acting Supt., Northern Dist., Bldg. Div., Panama Canal, Box 5017, Cristobal, Canal Zone, Panama	Assoc. M.	Oct.	7, 1908
	M.	May	13, 1918
HAYES, JOHN EDWARD. Cons. Engr.; Chf. Engr., The Farmers Reservoir & Irrig. Co., 705 Ideal Bldg., Denver, Colo.		June	18, 1918
HEALD, JAMES HUGHES. Engr., Lassig Plant, Am. Bridge Co., Clybourn and Wrightwood Aves., Chicago, Ill.		May	13, 1918
HICKOK, CLIFTON EWING. Capt., Engr. R. C., Office, Chf. of Engrs., U. S. A., Room 4-336, Washington, D. C.	Jun.	Dec.	6, 1910
	Assoc. M.	May	28, 1912
	M.	Jan.	14, 1918
HUNT, CHARLES ADAMS. Civ. Engr., U. S. N. R. F., Yorktown, Va.	Assoc. M.	Oct.	4, 1905
	M.	May	13, 1918
JOHNSON, MARO. Asst. Engr., Ill. Cent. R. R., 1434 East 65th St., Chicago, Ill.	Assoc. M.	April	6, 1909
	M.	May	13, 1918
KEENAN, JOHN THOMAS. Maj., Engr. R. C., 28th Engrs., Woodbridge, Va.		Jan.	14, 1918
KING, WESLEY EUGENE. Cons. Engr. (The Toltz Eng. Co.), 1410 Pioneer Bldg., St. Paul, Minn.	Assoc. M.	Mar.	2, 1915
	M.	May	13, 1918
LEE, ROBERT HILEMAN. Care, Vang Constr. Co., 402 Mutual Home Bldg., Dayton, Ohio.	Assoc.	May	2, 1906
	Assoc. M.	June	6, 1911
	M.	May	13, 1918
LUNDGREN, LEONARD. Capt., 116th Engrs., Army P. O. 714, Am. Exp. Forces, France.	Jun.	Feb.	4, 1908
	Assoc. M.	July	9, 1912
	M.	May	13, 1918
McCoy, CHARLES EPHRAIM. Secy., West Virginia State Road Comm., 1519 Lee St., Charleston, W. Va.		May	13, 1918

## MEMBERS (Continued)

		Date of Membership.
MARSHALL, CYRIL ERNEST DAVIS. 721 North	Assoc. M.	Mar. 6, 1907
Sargent Ave., Joplin, Mo. ....	M.	April 17, 1918
MILNER, WINFRED LEON. Chf. Engr., Potosi-	Assoc. M.	April 30, 1912
Sucre Ry., Casilla 113, La Paz, Bolivia.	M.	May 13, 1918
MOORE, FRANK COOK. Care, Am. Bridge Co., 30 Church		
St., New York City.....		May 13, 1918
MORAN, ROBERT BRECK. Geologist and Engr.,	Jun.	Sept. 1, 1908
458 South Spring St., Los Angeles, Cal.	Assoc. M.	June 6, 1911
	M.	June 19, 1918
MYERS, JOHN HAYS. Engr., Second Div., Pub-	Jun.	Dec. 5, 1893
lic Service Comm., First Dist., 70 East	Assoc. M.	Oct. 5, 1898
45th St., Room 2045, New York City..	M.	May 13, 1918
NEEL, ARTHUR WOOD. 1st Lieut., R. T. C., N. A., Head-		
quarters, Transportation Dept., U. S. A. P. O. No.		
717, Am. Exp. Forces, France (Res., 304 Princeton		
Ave., Birmingham, Ala.).....		Jan. 14, 1918
NICHOLS, JOHN ROBERT. Engr. with Monks &	Jun.	June 1, 1909
Johnson of Boston, 82 Avon Hill St.,	Assoc. M.	Sept. 3, 1913
Cambridge, Mass.....	M.	May 13, 1918
PINNEY, JAMES CHARLES, JR. Dean, Coll. of Applied		
Science and Eng., Marquette Univ., Milwaukee, Wis..		April 16, 1918
PRIOR, JOHN CLINTON. Designing and Cons.		
Engr. (Braun, Fleming, Knollman &		
Prior); Chf. Cost Reports Engr., Bureau	Assoc. M.	Feb 6, 1912
of Industrial Housing and Transporta-	M.	May 13, 1918
tion, 613 G St., N. W., Washington,		
D. C.....		
REICHARDT, WALTER FREDERICK. Box 115,	Jun.	Jan. 31, 1905
Watertown, Wis.....	Assoc. M.	July 10, 1907
	M.	Jan. 14, 1918
ROBBINS, HENRY CHANDLER. Archt. and Engr. (Densmore		
& LeClear), 88 Broad St., Boston, Mass.....		June 18, 1918
ROHRBOUGH, ELMORE MARCELLUS. Pres. and Mgr., Rohr-		
bough Eng. Co., 929 City National Bank Bldg.,		
Omaha, Nebr.....		June 18, 1918
SHAFFER, CHARLES GEORGE. Box 155, Pitman, N. J.....		April 16, 1918
SMITH, WILLIAM BEAUVAIS, JR. Asst. Engr.,	Assoc. M.	June 30, 1911
U. S. Engr. Dept., 327 Custom House,	M.	April 17, 1918
New Orleans, La.....		
STOCKWELL, RUPERT KENNEDY. Western Mgr.,	Assoc. M.	June 24, 1914
Robins Conveying Belt Co., 204 New-	M.	April 17, 1918
house Bldg., Salt Lake City, Utah....		
TUDBURY, WARREN CHAMBERLAIN. Expert	Assoc. M.	June 1, 1909
Aide, Public Works Office, Navy Yard,	M.	Mar. 12, 1918
Mare Island, Cal.....		

## MEMBERS (Continued)

		Date of Membership.
WALKER, EDWARD GEORGE. Lieut., R. N. V. R.,	Jun.	April 2, 1907
78 Cheyne Court, Chelsea, London, S. W.	Assoc. M.	Dec. 3, 1913
3, England.....	M.	June 19, 1918
WILCOX, ERNEST HARDWICK. Capt., Engr. R. C., Care, In-		
dustrial Ry., Camp A. A. Humphreys, Va.....		Jan. 14, 1918

## ASSOCIATE MEMBERS

ADAMS, GEORGE NORRIS. 800 Central Bldg., Los Angeles, Cal.....		Mar. 12, 1918
ARNOLL, KINGSLEY PARKHURST. Leading Draftsman, U. S. Navy Dept., Bureau of Yards and Docks (Res., 205 Iroquois Apartment House), Washington, D. C.....		April 16, 1918
ASHWORTH, FRANK KARR. Chf. Engr., Chevelier Corpora- tion and Tamiami Ry., 900 Ave. C, Miami, Fla....		June 18, 1918
BAKER, HAROLD WALLACE. 122 Vermont St., } Jun. Rochester, N. Y.....	Assoc. M.	Mar. 5, 1912 May 13, 1918
BENNETT, CARROLL GUERNSEY. Water and Heat Engr., Public Utilities Comm., 618 Park Ave., Spring- field, Ill.....		June 18, 1918
BERRY, STEPHEN CARTLAND. County Engr., Butte County, Belle Fourche, S. Dak.....		May 13, 1918
BEST, BYRON GRAY. Asst. Chf. Engr., Oliver Min. Co., Ironwood, Mich.....		May 13, 1918
BOOKWALTER, PARKER STANLEY. Supt. of Constr., The Day- ton Lumber & Mfg. Co., 51 Mary Ave., Dayton, Ohio.		May 13, 1918
BOOZ, HOWARD CRAWFORD. 21 West Spring Ave., Ard- more, Pa.....		May 13, 1918
BOSARD, RALPH. Asst. Engr., Morgan Eng. Co., 622 Good- wyn Inst., Memphis, Tenn.....		Jan. 14, 1918
BRENNAN, EDWARD MICHAEL. Care, Dept. of Public Works, Santo Domingo, P. O. Box 137, Santo Domingo, Dominican Republic.....		April 16, 1918
BROOK, ALEC EDWARD. Capt., Royal Engrs., } Jun. B. E. F., France; Address, Totley Rise, Sheffield, England.....	Assoc. M.	Mar. 5, 1912 April 16, 1918
BUCHANAN, WARREN HENDERSON. Chf. Machinist Mate, U. S. N. R. F., U. S. Naval Training Camp, Gulfport, Miss.; Address, 1526 South 19th St., Birmingham, Ala.....		Jan. 14, 1918
BURTON, RICHARD CHEETHAM. Supt. of Bldgs., Inter- national Rys. of Central America, Guatemala, Gua- temala.....		May 13, 1918
CHAPMAN, ARTHUR GROVER CLEVELAND. Constr. Engr., 75 Farragut Ave., Providence, R. I.....		Jan. 14, 1918

ASSOCIATE MEMBERS (*Continued*)Date of  
Membership.

CHILDS, JOHN CHAUNCEY. Acting Dist. Mgr., The Austin Co., 1026 Bulletin Bldg., Philadelphia, Pa.....		June 18, 1918
CLARKE, JOHN LYELL. Asst. San Engr., U. S. Public Health Service, Newport News, Va.....		June 18, 1918
COHEN, JACOB XENAB. Designing Engr., Syracuse Intercepting Sewer Board, 104 City Hall, Syracuse, N. Y.....	Jun.      Oct. 3, 1911 Assoc. M.      April 17, 1917	
COLLINS, GLENVILLE ARTHUR. Cons. Engr.; Pacific Coast Mgr., Wellman-Seaver Morgan Co., 1317 L. C. Smith Bldg., Seattle, Wash.....		May 13, 1918
COTTRELL, CLARKE COPELAND. State Highway Engr., Carson City, Nev.....		May 13, 1918
CRAVEN, JOHN THOMAS. Chf. Engr., Hunkins Willis Lime & Cement Co., 4622 Westminster Ave., St. Louis, Mo.		June 18, 1918
CRAWFORD, IVAN CHARLES. Maj., U. S. N. G., 115th Engrs., Camp Kearny, Cal.....	Jun.      Mar. 2, 1915 Assoc. M.      Jan. 14, 1918	
CRENSHAW, BERNARD LEE. Box 191, Toccoa, Ga.....		May 13, 1918
DALY, JOHN WILLIAM. Lieut., Inf. R. C.; Asst. Engr., Public Service Comm., 1st Dist. (Res., 652 West 185th St.), New York City.....		May 13, 1918
DANZILLI, ALFRED MICHAEL. Route Engr., Pittsburgh, Des Moines Steel Co., 807 Curry Bldg., Pittsburgh, Pa.....	Jun.      Jan. 17, 1916 Assoc. M.      May 13, 1918	
DAVIES, HERBERT ARTHUR. Acting Supt., Highway Dept., Virginia Bridge & Iron Co., P. O. Box 925, Roanoke, Va.....	Jun.      Mar. 14, 1916 Assoc. M.      April 16, 1918	
DIERKS, LOUIS ELMER. Asst. to Chf. Engr., Sauerman Bros., 1015 South Clinton Ave., Oak Park, Ill.....		June 18, 1918
DIFFENDERFER, CLAUDE ORVILLE. Capt., Engr. R. C., 534th Engrs., Camp Jackson, S. C.; Address, 522 Douglas St., Reading, Pa.....		June 18, 1918
DODD, JOSEPH HOLMES LEE. 2d Lieut., B. W. I. Reg., Burlington, St. Margaret's Bay, Jamaica.....		May 13, 1918
DOUGLASS, LOUIS REA. Capt., Q. M. R. C., 508 Woodlawn Rd., Roland Park, Baltimore, Md.....		June 18, 1918
DOW, PETER STAUB. Asst. Prof. of Eng. and Graphics, Dartmouth Coll., Box 83, Hanover, N. H.....		June 18, 1918
DURYEA, ROBERT FRANCIS. 1246 Sacramento St., San Francisco, Cal.....		June 18, 1918
EATON, EUGENE COURTLANDT. Supt., Lindsay-Strathmore Irrig. Dist., Lindsay, Cal.....		June 18, 1918
EDGECOMB, REX EDWARD. Purchasing Asst. of Mech. Equipment, Emergency Fleet Corporation (Res., 5844 Angora Terrace), Philadelphia, Pa.....	Jun.      April 2, 1913 Assoc. M.      May 13, 1918	



## ASSOCIATE MEMBERS (Continued)

		Date of Membership.
EIFFERT, CURT HENRY.	661 Franklin St., Hamilton, Ohio..	April 16, 1918
ELLIS, THOMAS PENGELLY.	Engr., Volcan Land & Water Co., 3784 Thirty-first St., San Diego, Cal.....	May 13, 1918
ELTING, OSCAR ROELIF.	Asst. Engr., Akron City Water- Works, 540 Weber Ave., Akron, Ohio.....	June 18, 1918
ENGLISH, HENRY WILLIAM.	Res. Engr., Little River Drainage Dist., 416 Bellevue St., Cape Girardeau, Mo.....	Jun. Nov. 12, 1913 Assoc. M. May 13, 1918
ESTERLY, WARD BENJAMIN.	Contr. and Const. Engr., 500 New Call Bldg., San Francisco, Cal.....	June 18, 1918
EVERETT, RALPH BURROWS.	Private, Co. F, 23d Engrs., Am. Exp. Forces, France; Address, 534 Stinard Ave., Syracuse, N. Y.....	Jun. Nov. 28, 1916 Assoc. M. April 16, 1918
FIELD, ARTHUR MAXWELL.	City Mgr. and Engr., 108 South Washington St., Winchester, Va.....	May 13, 1918
FISHER, LAWRENCE MACHEMER.	San. Engr., U. S. Public Health Service, Washington, D. C.....	April 16, 1918
FITZGERALD, GERALD CHAPMAN.	1st Lieut., Engr. R. C., 319th Engrs., Camp Fre- mont, Cal.; Address, 1223 Delaware Drive, Los Angeles, Cal.....	Jun. June 3, 1915 Assoc. M. June 18, 1918
FORSTER, ARTHUR OSCAR.	Capt., Q. M. C., N. A., Army Supply Base, 59th St. and 1st Ave. (Res., 1617 Beverly Rd.), Brooklyn, N. Y.....	Mar. 12, 1918
FRANKLIN, PHILIP AUGUSTUS.	Senior Struc- tural Draftsman, Bridge Dept., City Engr.'s Office, 409 East 65th St., Seattle, Wash.....	Jun. Jan. 2, 1912 Assoc. M. May 13, 1918
FRANZEN, JOHN LAVERN.	Div. Engr., Canada Land & Irrig. Co., Ltd., Travers, Alberta, Canada.....	June 18, 1918
FRY, ALBERT STEVENS.	With Morgan Eng. Co., 622 Good- wyn Inst., Memphis, Tenn.....	June 18, 1918
GARLINGHOUSE, RALPH LEMAN.	Alum Rock Ave., San José, Cal.....	June 18, 1918
GEIB, GEORGE ALBERT.	Capt., Engr. R. C., Co. A, 527th Engrs., Service Bn., Camp Upton, N. Y.; Address, 770 Como Ave., St. Paul, Minn.....	May 13, 1918
GEENER, ANSON JOHN.	Asst. Engr., U. S. Reclamation Service, Provo, Utah.....	May 13, 1918
GIBSON, THOMAS FENNER.	Box 324, Red Springs, N. C....	May 13, 1918
GRADY, PAUL LEO.	Engr., Public Utilities Comm., State of Kansas, State House, Topeka, Kans.....	April 16, 1918
GRISWOLD, HAROLD WILEY.	Care, Eng. Dept., Board of Water Commrs., 1026 Main St., Room 702, Hartford, Conn.....	Jun. May 7, 1913 Assoc. M. May 13, 1918

ASSOCIATE MEMBERS (*Continued*)

		Date of Membership.
HADLEY, ALLEN STACY. In Chg. of Tarvia Dept., The Barrett Co., 2429 Troost Ave., Kansas City, Mo.....		June 18, 1918
HALL, OLIVER ANTRUM. Capt., 23d Engrs., U. S. A., U. S. A. P. O. 708, Am. Exp. Forces, France.....		Nov. 27, 1917
HARDER, ERNEST HENRY. 14 North 9th St., Newark, N. J.		May 13, 1918
HAWLEY, GEORGE WILLIAM. Res. Engr., San Pablo Project, East Bay Water Co., Box 468, R. F. D. No. 1, Berkeley, Cal. }	Jun.      Sept. 2, 1914 Assoc. M.      May 13, 1918	
HAYES, REUBEN. Structural Engr., So. Ry., 1300 Pennsylvania Ave., Washington, D. C.....		May 13, 1918
HEDRICK, WYATT CEPHAS. Pres., W. C. Hedrick Const. Co., Dallas, Tex.....		May 13, 1918
HENDRICKSON, JOHN NORCOM. Chf. Engr., Pan-American Petroleum Co., Box 524, Ojai, Cal.....		April 16, 1918
HIGGINS, THOMAS CAROL. Insp. of Constr., Norfolk Navy Yard, Norfolk, Va..... }	Jun.      Nov. 3, 1915 Assoc. M.      June 18, 1918	
HINRICHS, ADOLF. 179 Lewis Ave., Brooklyn, N. Y.....		June 18, 1918
HIRSCH, HERMAN DAVID. Structural Steel Draftsman, Am. Bridge Co., 30 Church St., New York City....		June 18, 1918
HOHL, ALBERT KELLER. Contr. Mgr., Philadelphia Office, Lewis F. Shoemaker & Co., 5145 North Camac St., Philadelphia, Pa.....		April 16, 1918
HORTON, PHILIP ZELL. (Terhune & Horton), 401 Central National Bank Bldg., Peoria, Ill..... }	Jun.      May 6, 1914 Assoc. M.      April 16, 1918	
HOWARD, WILLIAM JAMES. Gen. Supt., Kelly Atkinson Co., 5548 Wayne Ave., Chicago, Ill.....		May 13, 1918
HUBER, ALBERT, JR. Engr. and Estimator, Clinton Constr. Co., 140 Townsend St., San Francisco, Cal.....		June 18, 1918
HUGHES, GEORGE ALFRED. Asst. Civ. Engr., The New York Edison Co., 256 Brooklyn Ave., Brooklyn, N. Y.....		May 13, 1918
HUNTER, JOSEPH GREENWOOD. Asst. Engr., U. S. Geological Survey, 210 Federal Bldg., Pueblo, Colo.....		Nov. 27, 1917
HUSSELMAN, ROY. Cons. Engr. (F. W. Ballard & Co.), 12200 Clifton Boulevard, Lakewood, Ohio.....		June 18, 1918
HUTTENLOCH, MORTON WALKER. Prin. Asst. Engr., Div. of Bridges and Grade Crossings, State of New Jersey Board of Public Utility Commrs., 76 Church St., Montclair, N. J.....		April 16, 1918
JONES, GEORGE WILEY. Asst. Road Commr., Los Angeles County, 3334 Elthea St., Los Angeles, Cal.....		June 18, 1918
JONES, PAUL SIDNEY. Battery No. 19, F. A. }	Jun.      Dec. 3, 1912 Assoc. M.      May 13, 1918	
O. T. C., Camp Zachary Taylor, Ky...		

ASSOCIATE MEMBERS (*Continued*.)

		Date of Membership.
JONES, SAMUEL THOMAS, JR.	Supt., Hardaway Contr. Co., Bridgewater, N. C.....	June 18, 1918
KIRBY, LUTHER HILL	Capt., Engr. R. C.; Address, Care, John W. Hunter, Berkeley Springs, W. Va.....	May 13, 1918
KLEPINGER, HOWARD ROBERT.	Water Supply Engr., The Am. Steel & Wire Co., 5311 Magnet Ave., Suite No. 2, Cleveland, Ohio.....	May 13, 1918
KONE, SAMUEL LOUIS.	Chf. Engr., Mexican Gulf Oil Co., Apartado 106, Tampico, Tamp., Mexico.....	April 16, 1918
KRUSE, OTTO V.	634 Chilton Ave., Niagara Falls, N. Y....	May 13, 1918
LACHER, WALTER SCOTT.	Associate Eng. Editor, <i>Railway Age Gazette</i> ; Managing Editor, <i>Railway Mainte- nance Engineer</i> , 440 North Spring Ave., La Grange, Ill. ....	May 13, 1918
LAPHAM, JOHN RAYMOND.	Asst. Prof. of } Civ. Eng., George Washington Univ., } Jun. Nov. 8, 1909 1829 G St., N. W., Washington, D. C. } Assoc. M. April 16, 1918	
LARSON, REUBEN LAWRENCE.	Prof. of Ry. and Bridge Eng., Chinese Govt. Univ., Peking, China.....	May 13, 1918
LARUE, LUTHER.	Asst. City Engr., 565 Marview Ave., Akron, Ohio.....	June 18, 1918
LASHMET, LUTHER CLYNE.	Chf. Draftsman, Waddell & Son, 800 Graphic Arts Bldg., Kansas City, Mo.....	April 16, 1918
LATIMER, HUGH.	Valuation Dept., N. Y. C. R. R., Room 3754, Grand Central Terminal, New York City.....	Mar. 12, 1918
LAURENCE, PAUL ARTHUR.	Vice-Pres. and Treas., Laurence Constr. Co., 544 Builders Exchange Bldg., Minne- apolis, Minn.....	May 13, 1918
LEARNED, ALBERT PREISACH.	1st Lieut., San } C., N. A., Co. 28, Bn. 7, Camp Green- } Jun. Dec. 6, 1910 leaf, Chickamauga Park, Ga..... } Assoc. M. May 13, 1918	
LEHNER, WALTER JOHN.	County Highway Engr. and County Surv., Macomb County, Mt. Clemens, Mich..	June 18, 1918
LONG, VERNE VERE.	Cons. Engr., Oklahoma City; Office Engr., Benham Eng. Co., 1300 Colcord Bldg., Okla- homa, Okla.....	May 13, 1918
LOVELAND, CHARLES DUBUISSON.	Dist. Mgr., Trussed Con- crete Steel Co., 2541 Oliver Bldg., Pittsburgh, Pa....	May 13, 1918
MCCOY, CURTIS JOHN.	(McCoy & Taylor), Box 1033, Wichita, Kans.....	June 18, 1918
MCGEE, HAROLD GILBERT.	1st Lieut., San. C., } N. A., Detachment San. Corps, Camp } Jun. Dec. 3, 1913 Jackson, Columbia, S. C..... } Assoc. M. April 16, 1918	
MALOY, THOMAS FRANKLIN.	Div. Engr., West Virginia State Road Comm., 10th Dist., Landisburg, W. Va....	June 18, 1918

ASSOCIATE MEMBERS (Continued)		Date of Membership.
MELIN, REYNOLD FERDINAND. 1st Lieut., Ord. R. C., 1269 New Hampshire Ave., Washington, D. C.		Nov. 27, 1917
MENKE, WILLIAM. Stewart House, Athens, N. Y.	Jun.	Dec. 6, 1910
	Assoc. M.	April 16, 1918
MIDDLETON, RAYMOND THOMAS. Care, Roberts & Schaefer Co., 2064 McCormick Bldg., Chicago, Ill.		May 13, 1918
MILKOWSKI, VICTOR JOHN. 2d Lieut., Engr. R. C., Camp Humphreys, Va.; Address, 139 Prospect St., Schenectady, N. Y.	Jun.	Nov. 28, 1916
	Assoc. M.	June 18, 1918
MILLER, JOHN OWEN. 2d Lieut., N. A., 10th Casual Detachment, Inf. Replacement Camp, Camp Lee, Va.	Jun.	July 2, 1913
	Assoc. M.	Jan. 14, 1918
MILTON, SAMUEL LAWRENCE. Engr. and Contr., 19 Westminster Rd., Roxbury, Mass.		May 13, 1918
MONAGHAN, JOHN RIPLEY. Asst. to Div. Engr., Rapid Transit Subway Constr. Co., 12 Eighteenth St., Elmhurst, N. Y.		April 16, 1918
MOOTS, ELMER EARL. Civ. and Mech. Engr., Agricultural Products Corporation, Continental, Ariz.	Assoc.	May 31, 1916
	Assoc. M.	April 17, 1918
MORELOCK, JOHN EARL. Lieut., Engr. R. C., Care, Engr. Purchasing Officer, U. S. P. O. 702, Am. Exp. Forces, France.		June 11, 1917
MOTTIER, CHARLES HALVATIOUS. Asst. Engr., Ill. Cent. R. R., 1403 East 69th Pl., Chicago, Ill.		June 18, 1918
NAGLER, FLOYD AUGUST. Private, Science and Research Dept., A. S. Sig. C., Meteorological Section, Agricultural and Mech. Coll. of Texas, College Station, Tex.	Jun.	Mar. 14, 1916
	Assoc. M.	May 13, 1918
NORELIUS, LEWIS MAGNUS. 56 Davenport, Detroit, Mich.		June 18, 1918
NORTON, PAUL WILLARD. Architectural Engr., Maginnis & Walsh, 38 Windsor Rd., Wellesley Hills, Mass.		May 13, 1918
OLMSTED, ROGER WOLCOTT. Chf. Engr., South San Joaquin Irrig. Dist., Manteca, Cal.		June 18, 1918
OUTWATER, HERBERT GREGOR. Capt., San. C., N. A.; Camp Engr. Officer, Camp Greenleaf, Chickamauga Park, Ga.		Jan. 14, 1918
PAASWELL, GEORGE. Section Engr., Public Service Comm., First Dist., 212 West Fordham Rd., New York City.		June 18, 1918
PACKARD, FRANCIS CHAPMAN. Chf. Engr., Sun Co. and Sun Pipe Line Co., 3 Lightfoot Apartments, Beaumont, Tex.		May 13, 1918
PAINE, RENNICK RUBENELL. 353 South 8th St., Chillicothe, Ill.		Jan. 14, 1918

ASSOCIATE MEMBERS (*Continued*)Date of  
Membership.

PAINTER, PENNELL CHURCHMAN. 1st Lieut., Engr. R. C., Co. D, 524th Engrs., Service Bn., Camp A. A. Hum- phreys, Va.....		Mar. 12, 1918
PAULSEN, CARL GUSTAV. Dist. Engr., Dept. of the Interior, U. S. Geological Survey, 521 Post Office Bldg., At- lanta, Ga.....		May 13, 1918
PETERSON, JOHN. Res. Engr., Ry. Maintenance, Soo Line, Enderlin, N. Dak.....		June 18, 1918
PHILLIPS, WALTER BELLEVILLE. Capt., Q. M. C., N. A., 1422 Massachusetts Ave., Washington, D. C.....		June 18, 1918
PORTERFIELD, ROY ALBERT. Asst. Field Engr., Interstate Commerce Comm., 6th Floor, Interstate Bldg., Kansas City, Mo.....		May 13, 1918
PROCTOR, RALPH SAWYER. 6451 Blackstone Ave., Chicago, Ill.....		June 18, 1918
REIDPATH, ELBERT HUME. (Robert J. Reid- path & Son), 64 Builders Exchange, Buffalo, N. Y.....	Jun.	Sept. 2, 1914
	Assoc. M.	May 13, 1918
REVELL, JOHN. 9 Maryland Ave., Annapolis, Md.....		Nov. 27, 1917
RICKARD, JOHN PHILIP. 155 Main St., West, Room 512, Rochester, N. Y.....		Mar. 12, 1918
RINEY, ARTHUR HERBERT. Capt., Engr., R. C., Co. A, 28th Engrs., Am. Exp. Forces, France.....		Mar. 12, 1918
RITCHIE, JOHN MILTON. Capt., Q. M. R. C., 7th and B Sts., S. W., Washington, D. C. }	Assoc.	Aug. 31, 1915
	Assoc. M.	April 17, 1918
ROBERG, RALPH MASON. 1902 West 21st St., Los Angeles, Cal.....		April 16, 1918
ROBERTSON, ROGER ROCKFORD. Asst. Engr., U. S. Reclama- tion Service, Grand Valley Project, Grand Junction, Colo.....		June 18, 1918
ROWLAND, HERBERT ARLO. County Surv. and County Engr., McPherson County, McPherson, Kans.....		June 18, 1918
RUHLING, GEORGE HUTZE. 921 East 7th St., Flint, Mich.....	Jun.	Mar. 13, 1917
	Assoc. M.	May 13, 1918
SCHILLING, ALEXANDER CHARLES. Care, U. S. Geological Survey, Lawrenceville, Va.....		June 18, 1918
SEAMAN, DANIEL HENRY. Designing Engr., Hay Foundry & Iron Works, 15 Madi- son Sq., North, New York City.....	Jun.	Dec. 3, 1912
	Assoc. M.	May 13, 1918
SEWARD, HAROLD CLINTON. Gen. Supt. of Constr., Bayly Hipkins, Inc. (Res., 623 Ave. L), Brooklyn, N. Y.....	Jun.	Jan. 15, 1917
	Assoc. M.	April 16, 1918
SEYMOUR, CLYDE JOHN. Cassidy, Vancouver Island, B. C., Canada.....		June 18, 1918

## ASSOCIATE MEMBERS (Continued)

Date of  
Membership.

SHAPIRO, SAMUEL. Asst. Engr., Grade E, Bureau of Topog- raphy, Room 2100, Municipal Bldg., New York City.	May 13, 1918
SILVERNAIL, ALFRED KIMBERLY. 1st Lieut., Q. M. C., N. A., Edgewood Arsenal, Edgewood, Md.	May 13, 1918
SMITH, WILLIAM AUGUSTUS. Village Engr., Box 33, Tucka- hoe, N. Y.	April 16, 1918
SNOWDEN, RUSSELL ELSTNER. Div. Highway Engr., North Carolina State Highway Comm., 112 Carolina Ave., Goldsboro, N. C.	June 18, 1918
STEPHENS, GEORGE WILLIAM, JR. Chf. Engr., The Dundalk Co., 704 Gladstone Ave., Roland Park, Md.	Jun. April 2, 1912 Assoc. M. May 13, 1918
STREET, JOHN ZADOK. Private, Specialist De- tachment, Co. A, 26th Engrs., Am. Exp. Forces, France; Care, Thomas A. Gilkey, Mercantile Bldg., New Castle, Pa.	Jun. Sept. 2, 1914 Assoc. M. Mar. 12, 1918
SUMNER, MERTON ROGERS. Mech. Dept., The Fred T. Ley Co., Inc., Box 20, Wilmington, Del.	May 13, 1918
TATTERSALL, HAROLD. With Charles W. Leavitt, 10 Sheffield St., Jersey City, N. J.	June 18, 1918
TIMBERLAKE, SETH MARTIN. Asst. Engr., Pub- lic Service Comm., 1st Dist., 2107 Bed- ford Ave., Brooklyn, N. Y.	Jun. Mar. 1, 1910 Assoc. M. May 13, 1918
TOWNSEND, TULLOCH McCOSH. Supt., Bureau of Water, 477 Franklin St., Schenectady, N. Y.	June 18, 1918
TRUDEAU, JAMES ARTHUR. 1342 Virginia St., Berkeley, Cal.	June 18, 1918
VAN DEUSEN, EDGAR ALLCHIN. Chf. Draftsman, Southern Power Co., Charlotte, N. C.	May 13, 1918
WALLER, ALEXANDER CHARLES. 1st Lieut., Engr. R. C., 22d Engrs., Fort Benjamin Harrison, Ind. (Res., 264 East Curtice St., St. Paul, Minn.)	April 16, 1918
WARD, EDWARD ASHTON. Engr. of Constr., and Treas., Wm. H. Lutton Co., 267 Kearney Ave., Jersey City, N. J.	Jun. Oct. 5, 1909 Assoc. M. June 18, 1918
WELSH, RUSSELL DUTTON. Private, Co. F, 115th Engrs., Camp Kearney, Cal.; Address, 721 Reservoir St., Bal- timore, Md.	June 18, 1918
WHEELER, WALTER HALL. (Chas. H. Wheeler & Son), 1112 Metropolitan Life Bldg., Minneapolis, Minn.	June 18, 1918
WILDER, ELLWOOD COGGESHALL. 12 Steiner St., San Francisco, Cal.	Jun. June 30, 1910 Assoc. M. May 13, 1918
WINSOR, HARRY DRAPER. Asst. Engr., Public Service Comm., 374 Livermore Ave., Westerleigh, N. Y.	Jun. Mar. 1, 1910 Assoc. M. May 13, 1918
WOODIN, EARL BELMONT. Structural Steel Checker, Am. Bridge Co., 502 Maplewood Ave., Ambridge, Pa.	May 13, 1918



ASSOCIATE MEMBERS (*Continued*)Date of  
Membership.

YOST, FRANK DENNETT. Surv., U. S. Forest Service, Albuquerque, N. Mex.....	April 16, 1918
YOUNG, CHARLES CLINTON. Asst. Engr., Valuation Dept., United Railroads of San Francisco; McKinley Court Apartments, Apartment No. 10, Berkeley, Cal. ....	June 18, 1918
ZEISLOFT, EARL ALDERFER. City Engr., 119 Merriman Rd., Akron, Ohio.....	May 13, 1918

## ASSOCIATES

BOWLES, JAMES TEN BROECK. Maj., San. C., U. S. N. A.; The Royalton, 44 West 44th St., New York City....	May 13, 1918
SPOONER, JOHN IRVING. Treas. and Supt., Allen N. Spooners & Son, Inc., 445 Bergen Ave., Jersey City, N. J.....	June 18, 1918

## JUNIORS

BURT, EARLE ANDREWS. 1113 Marengo Ave., South Pasa- dena, Cal.....	Mar. 12, 1918
CHADWICK, MAURICE FOSTER. Private, 24th Tr. Bn., F. A. R. D., Camp Jackson, S. C.; Address, 400 West 118th St., New York City.....	June 18, 1918
CHANDLER, WILLIAM EUSTACE. Master Gunner, Headquar- ters Co., 55th Artillery, C. A. C., A. P. O. 723, Am. Exp. Forces, France; Address, 428 Main St., Keene, N. H.....	April 16, 1918
DIAZ, ENRIQUE. Tester, British Thomson-Houston Co., Ltd., Belgrave, Clifton Rd., Rugby, England.....	Jan. 14, 1918
FULLER, FRANK LYMAN. Junior Engr., Public Service Comm., 281 Quincy St., Brooklyn, N. Y.....	June 18, 1918
GOLDSTINE, EDGAR NATHAN. 532 South 4th St., Terre Haute, Ind.....	June 18, 1918
GRADY, FRANK LA SALLE. Sergeant, Co. I, 52d Pioneer Inf., Camp Wadsworth, S. C.; Address, Box 243, Spring Valley, N. Y.....	June 18, 1918
GREEN, HOWARD WHIPPLE. San. Engr., Miraflores Water Purification Plant, Box 364, Ancon, Canal Zone, Panama.....	June 18, 1918
HALL, LESLIE STANDISH. Draftsman and Computer, Dur- yea, Haehl & Gilman, 5448 Boyd Ave., Oakland, Cal. ....	May 13, 1918
KING, THOMAS RICHARD. 1st Lieut., Engr. R. C., Am. Exp. Forces, France (Res., 500 South Orange St., Glendale, Cal.).....	April 16, 1918
MCGEE, ARTHUR BRANCH. Sergeant, Ord. Dept., N. A., 422 Brown-Marx Bldg., Birmingham, Ala. (Res., 1487 North Los Robles Ave., Pasadena, Cal.).....	Jan. 14, 1918

JUNIORS (Continued)		Date of Membership.
McKELVEY, JAMES GRAY. Asst. Engr., Bldg. Dept., 426 City Hall, St. Louis, Mo.....		April 16, 1918
McMULLEN, CLEMENTS. Lieut., Sig. R. C., A. S., Gerstner Field, Lake Charles, La.....		May 13, 1918
NILES, ALFRED SALEM, JR. 2d Lieut., Corps of Engrs., U. S. A.; Address 2010 Edgewood St., Baltimore, Md.....		May 13, 1918
OKUN, ABRAHAM HARRY. With Kny-Scheerer Corporation, 216 Clinton St., New York City.....		June 18, 1918
PRIDE, HAROLD ELLWOOD. C. A. T. C., Fort Monroe, Va. (Res., Manchester, Iowa).....		Nov 27, 1917
PUDDICOMBE, ALBERT BRUCE. Asst. Engr., Chinese Mari- time Customs, Works Dept., Custom House, Shang- hai, China.....		Mar. 12, 1918
RUSSELL, WILLIAM HEPBOURNE. 1st Lieut., 5th F. A.; 1356 North Broadway, Knoxville, Tenn.....		Nov. 27, 1917
TEIXEIRA DE MELLO, JOSE ALEXANDRE. 24 rua Macêdo Sobrinlio, Rio de Janeiro, Brazil.....		Oct. 9, 1917
WIDDICOMBE, STACEY HARRISON. U. S. S. M. A., Prince- ton, N. J.; Address, 250 Second Ave., Phoenixville, Pa.....		Mar. 12, 1918
ZELTNER, EDWARD LOUIS. With Turner Const. Co., 17 Medina Pl., Elmhurst, N. Y.....		Mar. 12, 1918

## CHANGES OF ADDRESS

## MEMBERS

- ABBOTT, FRED WALTER. 203 North 35th St., Philadelphia, Pa.
- ABBOTT, HUNLEY. U. S. Engr. of Docks, Charleston Port Terminal, Charles-  
ton, S. C.
- AIKEN, WILLIAM AUGUSTIN. Engr. of Tests, U. S. Ord. Dept., Care, North  
Am. Motors Co., Pottstown, Pa.
- ALVORD, JOHN WATSON. (*Director*) Cons. Engr. (Alvord & Burdick); Chf.  
Engr., Bureau of Industrial Housing and Transportation, 613 G St.,  
N. W., Washington, D. C.
- ANTHONY, CHARLES CHAPMAN. 1009 Sonoma Ave., Santa Rosa, Cal.
- ATWOOD, WILLIAM GREENE. Lt.-Col., Engrs., N. A., 17th Engrs. (Ry.),  
U. S. A. P. O. 701, Am. Exp. Forces, St. Nazaïre, France.
- BASINGER, JAMES GARNETT. Superv. Engr., Representing Director of  
Storage and Traffic, Army Supply Base, Brooklyn, N. Y.; Address,  
52 Broadway, New York City.
- BAXTER, FRANK EDWIN. Railroad Contr., Durham, Cal.
- BEARDSLEY, JAMES WALLACE. Care, Siems-Carey Ry. & Canal Co., Peking,  
China.
- BELCHER, WALLACE EDWARD. 2803 Queen Lane, Germantown, Pa.

## MEMBERS (Continued)

- BELKNAP, WILLIAM ETHELBERT. 1805 Phelps Pl., Washington, D. C.
- BENNETT, JOHN WALTER FRINK. Maj., Q. M. C., N. A., Constr. Div.; Cons. Engr., 261 Broadway, New York City.
- BENTZON, ADRIAN BENONI. Civ. Engr. and Contr.; Administrador del F. C. Machacamarca-Uncia, Machacamarca, Bolivia.
- BISSELL, CLINTON SPENCER. Oceangate, N. J.
- BLACK, DUDLEY FRANK. Capt., Engr. R. C., Co. C, 513th Engrs., Am. Exp. Forces, France (Res., 1247 Orange Drive, Hollywood, Cal.).
- BONTECOU, DANIEL. Care, Inland Waterways Comm., 601 G St., N. W., Washington, D. C.
- BOYDEN, HARRY CHESTER. Maj., Engrs., N. A.; Asst. to Dept. Engr., Headquarters, Western Dept., San Francisco, Cal. (Res., 102 Greenbank Ave., Piedmont, Cal.).
- BROWN, THOMAS ELLIS. Cons. Engr., 35 Nassau St., New York City.
- BROWN, WALTER HENRY. Cons. Hydr. Engr., 709 Bushnell Ave., Alhambra, Cal.
- BROWN, WILLIAM NELSON. Civ. and Min. Engr. (Brown & Clarkson), 1517 H St., N. W., Washington, D. C.
- BROWNELL, ERNEST HENRY. Civ. Engr., U. S. N. (rank of Commander), U. S. Navy Yard, Portsmouth, N. H.
- BUEL, ALBERT WELLS. Care, Maj. W. P. Rothrock, Const. Q. M., U. S. A., Brunswick, Ga.
- BURDEN, JAMES. Kingscourt, 36th and Chestnut Sts., Philadelphia, Pa.
- BURT, HENRY JACKSON. Maj., Q. M. C., N. A., 7th and B Sts., S. W., Washington, D. C.; Address, 1400 Monroe Bldg., Chicago, Ill.
- BUSH, ADAM LEONARD. Asst. Constr. Engr., Concrete Ship Dept., Div. of Steel Ship Constr., Emergency Fleet Corporation, 5319 Baltimore Ave., Philadelphia, Pa.
- BUSH, LINCOLN. Lt.-Col., Q. M. C., N. A., 7th and B Sts., S. W., Washington, D. C.
- CALDWELL, WILLIAM HOWELL. Lieut., U. S. N. R. F., Naval Proving Ground, Neill, Va.
- CAMERON, HARRY FRANK. Maj., Engr. R. C.; Instr., E. R. O. T. C., Camp Lee, Va.
- CAMERON, JOHN BOBBS. 629 North 15th St., Philadelphia, Pa.
- CARROLL, JAMES EDWARD. Maj., Engr. R. C., 527th Engrs., Am. P. O. No. 701, Am. Exp. Forces, France; Address, 1682 Lincoln Ave., St. Paul, Minn.
- CARTY, JOHN EDWARD. Div. Engr., Bridge and Ferry Div., Public Works Dept., 602 City Hall Annex, Boston, Mass.
- CASE, MONTGOMERY BABCOCK. 311 South Eastern Ave., Joliet, Ill.
- CHAMBERS, FRANK TAYLOR. Civ. Engr., U. S. N. (rank of Capt.); Chf. Engr., U. S. Shipping Board, Port and Harbor Facilities Comm., 1325 E St., N. W., Washington, D. C.

## MEMBERS (Continued)

- CHASE, CHARLES PERRY. Dist. Engr., Bureau of Housing and Transportation, 613 G St., N. W., Washington, D. C.
- CLAFLIN, WILLIAM BEMENT. Capt., Engr. R. C., Headquarters, 39th Div., Camp Beauregard, La.
- CLARK, ERNEST ALDEN. Capt., Engr. R. C.; 3545 West Adams St., Chicago, Ill.
- CLOSSON, EDGAR STONE. Res. Engr., U. S. Shipping Board, Emergency Fleet Corporation, Dept., Concrete Ship Constr. (Res., 251 Government), Mobile, Ala.
- COE, CLARENCE STANLEY. Maj., Engrs., N. A., 17th Engrs. (Ry.), A. P. O. No. 701, Am. Exp. Forces, France.
- COLE, HOWARD JUDSON. Capt., Engr. R. C., Care, Office of Chf. of Engrs., Room 4-336, Washington, D. C.
- COLLINS, CLARKE PELEG. Cons. Engr., Clarksburg Eng. Co., 802 Goff Bldg., Clarksburg, W. Va.
- COLLINS, DANIEL CHARLES NEWMAN. Archt. and Engr., 14 John St., New York City.
- CONDON, THEODORE LINCOLN. Pres., Condon Co., 1432 Monadnock Blk., Chicago, Ill.
- CONNOR, EDWARD HANSON. Vice-Pres. and Chf. Engr., Mo. Val. Bridge & Iron Co., Quantico, Va.
- CRANE, JOSEPH SPENCER. Maj., Q. M. C., N. A., Room 2760, Woolworth Bldg., New York City.
- CRECELIUS, SAMUEL FORDER. Lt.-Col., Engr. R. C., 101st Engrs., Am. Exp. Forces, France.
- CROCKER, HERBERT SAMUEL. Maj., Engr. R. C.; Const. Q. M., Brooklyn Army Supply Base, 59th St. and 1st Ave., Brooklyn, N. Y.; Cons. Engr., 1333 Fillmore St., Denver, Colo.
- CROMWELL, GEORGE. City Engr., 1864 Sunset Boulevard, San Diego, Cal.
- CROSBY, WALTER WILSON. Lt.-Col., Engrs., N. A., Care, Chf. of Engrs., War Dept., Washington, D. C.
- DARROW, WILTON JOSEPH. 58 West 51st St., New York City.
- DATER, PHILIP HERRICK. Forest Service (Res., 1345 Wistaria Ave.), Portland, Ore.
- DEAN, BERTRAM DODD. Capt., Engr. R. C., Dept., C. and F., H. Q., S. O. S., U. S. M. P. O. 717, Am. Exp. Forces, France.
- DOELEMEN, HERMAN FRANCOIS. Maj., Q. M. C., N. A., Eng. Dept., Constr. Div., 7th and B Sts., S. W., Washington, D. C. (Res., 4005 Springdale Ave., Baltimore, Md.)
- DURHAM, HENRY WELLES. Maj., Engr. R. C., 41st Engrs., N. A., Am. Exp. Forces, France.
- DURHAM, LEICESTER. Capt., Engr. R. C., A. P. O. 733, Am. Exp. Forces, France.
- EDDY, ALBERT CLARK. Capt., 55th Engrs., Am. Exp. Forces, France (Res., 1518 Third Ave., South, Minneapolis, Minn.)

## MEMBERS (Continued)

- EHLE, BOYD. 48 Radford St., Yonkers, N. Y.
- ELLIOTT, MALCOLM. Lt.-Col., Engrs. N. A., 309th Engrs., Camp Sherman, Ohio.
- ELLMs, JOSEPH WILTON. Cons. Engr., 2807 Union Central Bldg., Cincinnati (Res., 1263 Cook Ave., Lakewood), Ohio.
- EMIG, JOHN WITMER. 1408 Dempster St., Evanston, Ill.
- ERNST, OSWALD HERBERT. Maj.-Gen., U. S. A. (*Retired*), Buena Vista Spring, Pa.
- ESSELSTYN, HORACE HOVEY. Pres., Esselstyn, Murphy & Hanford, 210 New Telegraph Bldg., Detroit, Mich.
- EVERHAM, ARTHUR CASSIDY. Maj., Q. M. C., N. A., Bldg. C, Room 2-318, 7th and B Sts., Washington, D. C.
- EWEN, JOHN MEIGGS. Care, French American Constructive Corporation, 81 rue St. Lazare, Paris, France.
- FARRINGTON, HARVEY. Cons. and Contr. Engr., 485 North Broadway, Yonkers, N. Y.
- FELLOWS, ABRAHAM LINCOLN. Cons. Engr., 438 Equitable Bldg., Denver, Colo.
- FELTHAM, PERCY MARSHALL. Capt., Co. 5-A, E. R. O. T. C., Camp Lee, Va.; Address, Albany, Ga.
- FELTON, SAMUEL MORSE. Director-General of Railways, U. S. A.; Pres., C. G. W. R. R., Chicago, Ill.
- FICKES, CLARK ROBINSON. Maj., Engr. R. C., Am. Exp. Forces, France; Address, 110 North Clinton St., Iowa City, Iowa.
- FINLEY, WILLIAM HENRY. Pres., C. & N. W. Ry., Batavia, Ill.
- FINNELL, WOOLSEY. Maj., Engr. R. C., 501st Engrs., U. S. A. P. O. 741, Am. Exp. Forces, France.
- FLAGLER, CLEMENT ALEXANDER FINLEY. Brig.-Gen., U. S. A., 5th F. A. Brigade, Am. Exp. Forces, France.
- FLEMING, BURTON PERCIVAL. Capt., Engr. R. C., 4th E. R. O. T. C., Camp Lee, Petersburg, Va.
- FREDERICKSON, JOHN HENRY. Mgr., James Stewart & Co., Inc., U. S. M. P. O. 705, Am. Exp. Forces, France.
- FRENCH, FRANK CHAUNCEY. Capt., Engr. R. C., 525th Engrs., Camp Humphreys, Belvoir, Va.
- GARRETT, JAMES EDWIN. P. O. Box 1527, Tucson, Ariz.
- GARTENSTEIG, CHARLES. Capt., Engr. R. C., 535th Engrs., Camp Lee, Va. (Res., 35 West 96th St., New York City).
- GAULT, HOMER JOHNSTON. Painesville, Ohio.
- GAUMER, ALBERT WESLEY. Oaks, Pa.
- GILCHRIST, CHARLES ALLYN. 1710 Webster St., Oakland, Cal.
- GILLESPIE, RICHARD HENWOOD. Chf. Engr., Sewers and Highways, Bronx, 177th St. and 3d Ave. (Res., 343 East 195th St.), New York City.
- GOLDSMITH, CLARENCE. Maj., Q. M. C., N. A.; Asst. to Officer in Chg. of Constr. Div., U. S. A., Washington, D. C.

## MEMBERS (Continued)

- GOUGH, WILLIAM JOSEPH. Capt., Engr. R. C., Co. B, 3d Eng. Training Reg., Camp A. A. Humphreys, Va.
- GRAVES, EDWARD MICHAEL. Maj., Engr. R. C., 529th Engrs., Camp Funston, Kans.; Address, 1105 Sweetland Bldg., Cleveland, Ohio.
- GRAVES, WALTER JOSEPH. U. S. Asst. Engr., 1640 New Penobscot Bldg., Detroit, Mich.
- GUERINGER, LOUIS AMEDEE. Care, Railroad Comm. of Texas, Austin, Tex.
- GUTMAN, DAVID. Maj., Engr. R. C., Constr. Div., 7th and B Sts., S. W., Washington, D. C.
- HAINES, HENRY STEVENS. Gwysaney, Lenox, Mass.
- HALL, LOUIS WELLS. Capt., Engr. R. C., Care, Director of Const. and Forestry, Service of Supply, P. O. 717, Am. Exp. Forces, France.
- HANSEN, PAUL. Capt., Engr. R. C., Headquarters Advance Section, S. O. S., Office of the Chf. Engr., Am. Exp. Forces, France; Chf. Engr., State Dept. of Public Health, Springfield, Ill.
- HARDY, HARRY. Care, British Consul, Lima, Peru.
- HARRIS, FREDERIC ROBERT. Rear-Admiral, U. S. N.; Pres., Board of Control, War Constr. Activities, Hampton Roads; Deputy Director, Bureau of Housing, Dept. of Labor; Aide for Public Works, Fifth Naval Dist.; Virginia Club, Norfolk, Va.
- HARWOOD, GEORGE ALEC. Corporate Chf. Engr., N. Y. C. Lines, 3609 Grand Central Terminal, New York City.
- HARZA, LEROY FRANCIS. Res. Engr., Concrete Ship Div., U. S. Shipping Board, Emergency Fleet Corporation, 216 Heard Bldg., Jacksonville, Fla.
- HATCH, JAMES NOBLE. Cons. Engr., 1590 Old Colony Bldg., Chicago, Ill.
- HAZLEHURST, JAMES NISBET. Maj., Engr. R. C., Headquarters S. O. S., Am. Exp. Forces, France.
- HECK, KIRBY SCOTT. 372 Sixty-second St., Oakland, Cal.
- HENOCH, MILTON JACOB. Supt. of Constr., Davidson Bros. Co. Station 2, Sioux City, Iowa.
- HEWES, VIRGIL HENRY. 347 Golden Hill St., Bridgeport, Conn.
- HIGGINS, HERMAN KEENE. Alcoa, Tenn.
- HOAD, WILLIAM CHRISTIAN. Maj., Sig. C., N. A., Surgeon-General's Office, U. S. A., Washington, D. C.
- HOBBS, HENRY WEBSTER. Maj., Engr. R. C., Office of Chf. of Engrs., U. S. A., Washington, D. C.
- HOBBY, ARTHUR STANLEY. With The Snare & Triest Co., 36 D, Calle Zulueta, Havana, Cuba.
- HODGE, HENRY WILSON. Lt.-Col., R. T. C., N. A.; Mgr. of Roads, G. H. Q., Am. Exp. Forces, France.
- HOOVER, ANDREW PEARSON. Maj., Constr. Div., Q. M. C., N. A.; U. S. Q. M. Terminal, Sumner Street Extension, Boston, Mass.; Cons. Engr. (Goodrich, Hoover & Bennett), 261 Broadway, New York City.



## MEMBERS (Continued)

- HOUGH, DAVID LEAVITT. Maj., Q. M. C., N. A., Care, Adjutant-General, Washington, D. C.
- HOWE, WILSON TYLER. Capt., Q. M. C., N. A.; Asst. to Const. Q. M., New Orleans Army Supply Depot, New Orleans, La.
- HUDSON, HAROLD WALTON. Maj., Staff of Director-General of Transportation, Care, Director-General of Transportation, Am. Exp. Forces, France; Address, 2 South Morris Ave., Atlantic City, N. J.
- HUTCHINSON, GEORGE HUNT. Chf. Engr., Northwestern Fuel Co., 1203 Merchants Bank Bldg. (Res., 2112 Carroll Ave.), St. Paul, Minn.
- HYDE, CHARLES GILMAN. Capt., San. Corps, N. A., Bn. 7, Co. 28, Camp Greenleaf, Fort Oglethorpe, Ga.; Address, Care, Dept. of Civ. Eng., Univ. of California, Berkeley, Cal.
- JACKSON, DUGALD CALEB. Maj., Engr. R. C., Am. Exp. Forces, France; Address, 17 Appleton St., Watertown, Mass.
- JACKSON, WILLIAM BENJAMIN. Maj., Q. M. C., N. A.; Officer in Chg. of Utilities, Care, Camp Q. M., Camp Merritt, N. J.
- JAPP, Sir HENRY. S. Pearson Son & Partners, Canada, Ltd., 59 Beaver Hall Hill, Montreal, Que., Canada.
- JOHNSON, GEORGE ARTHUR. Maj., Q. M. C., N. A., Constr. Div., Maintenance and Repair Branch, Henry Park Bldg., Washington, D. C.; Address, 150 Nassau St., New York City.
- JOHNSTON, JAMES HOUSTOUN. With Housing Div., U. S. Shipping Board, Emergency Fleet Corporation, 4209 Chester St., Philadelphia, Pa.
- JONAH, FRANK GILBERT. Maj., Engr. R. C.; Chf. Engr., Dept. of Light Rys., U. S. A. P. O. 706, Am. Exp. Forces, France.
- JORDAN, RICARDO TOMAS. Insp. de Industrias; Secretaria de Industria, Comercio y Trabajo, City of Mexico, Mexico.
- JUSTIN, JOEL DEWITT. Badin Works, Falls Office, Badin, N. C.
- KEITH, HERBERT CARY. Progress Section, Estimates and Requirements Div., Ord. Dept., Washington, D. C.; Cons. Engr., 13 Park Row, New York City.
- KELLEY, WILLIAM DATUS. (Kelley-Demarest Constr. Co.); Pres., Kelly & Kelley, 12th St. and Vernon Ave., Borough of Queens, New York City.
- KENDALL, CHARLES HANFORD. Senior Highway Engr., Office, Public Roads, 515 Fourteenth St., Washington, D. C.
- KIMBALL, WILLIAM HALE. With Bureau of Industrial Housing and Transportation, Eng. Div., 613 G St., N. W. (Res., Ontario Apartment 109, Ontario Rd. and 18th St., N. W.), Washington, D. C.
- KLEIN, WILLIAM IGNATIUS. Cons. Engr., Care, Roberts Filter Mfg. Co., Darby, Pa.
- KLINCK, JOHN HENRY. Maj., Q. M. C., N. A.; Address, 1146 Brown-Marx Bldg., Birmingham, Ala.
- KLUEGEL, HARRY ALLARDT. Capt., Q. M. R. C., Care, Const. Q. M., Camp Lewis, Wash.

## MEMBERS (Continued)

- KNICKERBOCKER, CURTIS EDWIN. 50 East 42d St., Room 414, New York City.
- KNUTSON, GEORGE HENRY. 140 North Broad St., Room 504, Philadelphia, Pa.
- KUTZ, CHARLES WILLAUER. Brig.-Gen., N. A., 1714 Q St., N. W., Washington, D. C.
- LAKE, EDWARD NELSON. Maj., Q. M. C., N. A.; Const. Q. M., Scituate Proving Grounds, Scituate, Mass.
- LAMPHERE, FRANK ELMER. Col., Q. M. C., N. A.; Const. Q. M., Charleston Port Terminal, Box 933, Charleston, S. C.
- LANGTHORN, JACOB STINMAN. Care, Air Nitrates Corporation, 511 Fifth Ave., New York City.
- LARMON, FRANK PERRY. Chf. Engr., Metropolitan Water Dist., Omaha, Nebr.
- LEBARON, JOHN FRANCIS. Cons. Engr., Essex, Mass.
- LELAND, ORA MINER. Prof. of Geodesy and Astronomy, Coll. of Civ. Eng., Cornell Univ. (Res., 150 Triphammer Rd.), Ithaca, N. Y.; Lt.-Col., 303d Engrs., Am. Exp. Forces, France.
- LELAND, WARREN ALLSTON. Care, Charleston Eng. & Contr. Co., 58 Broad St., Charleston, S. C.
- LEONARD, JOHN BUCK. Menlo Park, Cal.
- LONGLEY, FRANCIS FIELDING. Lt.-Col., 26th Engrs., Am. Exp. Forces, France; Cons. Engr. (Hazen, Whipple & Fuller), 30 East 42d St., New York City.
- LUCAS, GEORGE LATIMORE. Gen. Insp. of Materials, Public Service Comm., First Dist., 49 Lafayette St., New York City.
- LUND, ALFRED MAJENDIE. Maj., San. C., N. A.; San. Insp., Camp Hancock, Augusta, Ga.; Address, 2126 Arch St., Little Rock, Ark.
- LYON, GEORGE JOHN. Capt., Engr. R. C.; Address, 5 Ardsley Rd., Schenectady, N. Y.
- MACARTNEY, MORTON. Engr., Sewers and Water, Columbus Q. M. Interior Storage Depot, Columbus, Ohio.
- MACDONALD, CHARLES. (*Past-President.*) Ganonoque, Ont., Canada.
- MACKALL, JOHN NATHANIEL. Chf. Engr., State Roads Comm., Baltimore, Md.
- MCCULLOCH, ROBERT AUSTEN. Archt., 166 Twenty-fifth St., Elmhurst, N. Y.
- MCDANIEL, ALLEN BOYER. Superv. Engr., Office, Head of Eng. Branch, Constr. Div., War Dept., P. O. Box 1319, Washington, D. C.
- MCDONOUGH, CHARLES JOSEPH. Div. Engr., State Highway Dept., 703 Main St., Buffalo, N. Y.
- MCGREW, ANSON BURLINGAME. Dist. Engr., Chattanooga and Nashville Engr. Dists., 321 Fourth and First National Bank Bldg., Nashville, Tenn.
- McHENRY, EDWIN HARRISON. Pelham Court, Carpenter St., Germantown, Philadelphia, Pa.

## MEMBERS (Continued)

- McMURTRY, GUY. Burnet Ranch, Cal.
- MASON, GEORGE COTNER. Engr. and Contr., 923 Gasco Bldg., Portland, Ore.
- MATHER, THOMAS HOGGAN. Prin. Asst. Superv. Engr., Q. M.'s Interior Storage Depot, New Cumberland, Pa.
- MAURY, DABNEY HERNDON. Lt.-Col., Q. M. C., N. A., Farnsboro Apartments, Washington, D. C.
- MEARS, FREDERICK. Col., 31st Engrs., N. A., Camp Mills, N. Y.
- MILLER, CHARLES HENRY. Maj., 23d Engrs., 2d Bn., Am. Exp. Forces, France.
- MINNISS, GEORGE STEWART. Maj.; Q. M., 2d Brigade, Army Troops, Camp Wadsworth, Spartanburg, S. C.
- MINOR, CYRUS EDWARD. Box BB, Douglas, Ariz.
- MOBERLY, FRANK. Asst. Engr., Dept., Public Works, Equity Chambers, Toronto (Res., Barrie), Ont., Canada.
- MONSARRAT, CHARLES NICHOLAS. Lt.-Col.; Cons. Engr., Dept., Rys. and Canals, Ottawa, Ont., Canada.
- MORRIS, MARSHALL, JR. Care, Walsh & Burney, Donna, Tex.
- MORRISON, HARRY JOHNSON. Box 368, Montgomery, Ala.
- MOWER, HARRISON CURTIS. Lt.-Col., Headquarters Staff, 307th Engrs., Am. Exp. Forces, France.
- MUIRHEAD, JAMES HERBERT HAWKSWORTH. Lieut., Royal Engrs., 31 Craven St., Strand, London, W. C. 2, England.
- MUSHAM, JOHN WILLIAM. Capt., Engr. R. C., Co. A, 513th Engrs., U. S. A. P. O. No. 738, Am. Exp. Forces, France (Res., 301 South Taylor Ave., Oak Park, Ill.)
- NELSON, JAMES AUGUSTUS. Asst. Mgr., Machinery Fabrication, Am. International Shipbuilding Corporation, Hog Island, Pa.
- NICHOLS, EDWIN JAY. 424 West Ferguson St., Tyler, Tex.
- OAKES, JOHN CALVIN. Col., U. S. A., 5th Engrs., Corpus Christi, Tex.
- OBER, RALPH HADLOCK. Care, Y. M. C. A., Paris, France; Address, Care, Richard B. Ober, Tono, Wash.
- ODONI, VINCENT PHILLIP. Ensign, U. S. N. R. F., Office, Public Works, U. S. N., 716 Timken Bldg., San Diego, Cal.
- OSTRUP, JOHN CHRISTIAN. Maj., Engr. R. C., 4th Engr. Training Regt., Camp Humphreys, Va.
- PARDEE, JAMES THOMAS. Cons. Engr., P. O. Box 226, Midland, Mich.
- PARKER, PHILIP A MORLEY. Batu Arang, Selangor, Federated Malay States.
- PARKER, WILLIAM EDWARD. Lt.-Commander, U. S. N. R. F., Box 82, Kensington, Md.
- PERRINE, GEORGE. Maj., Q. M. C., N. A.; Superv. Engr., Army Supply Base, Brooklyn, N. Y. (Res., 820 West End Ave., New York City.)
- PHELPS, HOWARD EASTWOOD. Asst. San. Engr., U. S. Public Health Service, Newport News, Va.
- PHILIPS, JAMES HARRY. Maj., Q. M. C., N. A., Room 2-318, Constr. Div., War Dept., 7th and B Sts., Washington, D. C.

MEMBERS (*Continued*)

- PHILLIPS, HOWARD CRATHORNE. Chairman, Western Group Eng. Committee, President's Conference Committee, Federal Valuation of Railroads, 110 South Dearborn St., Chicago, Ill.
- PIERCE-HOPE, JOHN. Conducteur, S. S. A., Convoi d'Automobiles, B. C. M., Paris, France; Address, Overseas Club, Aldwych, W. C., London, England.
- PITTS, THOMAS DORSEY. Care, Emergency Fleet Corporation, Div. of Shipyard Plants, 140 North Broad St., Philadelphia, Pa.
- POSS, VICTOR HENRY. Cons. Engr. (Res., 2929 Russell St.), Berkeley, Cal.
- POWERS, CORNELIUS VAN VORST. Chf., Div. of Contr. Adjustment, Public Service Comm., First Dist., 49 Lafayette St., New York City.
- PRATT, FRANCIS EVERETT. Care, Dexter & Carpenter, Altoona, Pa.
- PRATT, MASON DELANO. Cons. Engr., 1616 La Vereda St., Berkeley, Cal.
- QUILTY, THOMAS FRANK. Maj., Engr. R. C., War Dept., Columbus, Q. M. Interior Storage Depot, Columbus, Ohio; Vice-Pres. and Treas., Superior Stone Co., 326 West Madison St., Chicago, Ill.
- RANNEY, WILLIS. Cons. Engr. (Bartlett & Ranney); Supt. of Constr., Ebro Irrig. & Power Co., Ltd., Camarasa, Lerida, Spain.
- REED, MELVILLE EMERSON. Cons. Engr., 4 Lewis Bldg., Portland, Ore.
- REEDY, OLIVER THOMAS. Constr. Engr., U. S. Reclamation Service, Tramway Bldg., Denver, Colo.
- REEVES, CARL HOWELL. Maj., Q. M. C., Office of Const. Q. M., Camp A. A. Humphreys, Va. (Res., 4722 Latona Ave., Seattle, Wash.)
- REIMER, FREDERIC ADAMS. County Engr., 51 North Maple Ave., East Orange, N. J.
- REPPERT, CHARLES MILLER. Deputy Chf. Engr., Eng. Branch, Housing Div., U. S. Shipping Board, 253 North Broad St., Philadelphia, Pa.
- RICHMOND, WALDEMAR SPAULDING. Capt., Engr. R. C. (*Unassigned*); U. S. Asst. Engr., Buffalo Dist., Old Custom House, Detroit, Mich.
- RICKER, GEORGE ALFRED. Representative, Portland Cement Assoc., 421 Union Trust Bldg., Washington, D. C.
- RIPLEY, THERON MONROE. Maj., Engr. R. C.; Const. Q. M., Fort Oglethorpe, Ga. (Res., 107 Flower Ave., West, Watertown, N. Y.)
- ROBERTS, SHELBY SAUFLEY. Staff Officer, Eng., U. S. Railroad Administration, 1208 Healey Bldg., Atlanta, Ga.
- ROBINSON, JOHN MASON. Care, S. M. Simmons, Spring Hill, Kans.
- ROTHROCK, WILLIAM POWELL. Maj., Engrs. N. A.; Address, State College, Pa.
- ROUSSEAU, HARRY HARWOOD. Civ. Engr. U. S. N. (rank of Rear-Admiral); Member, Comm. on Navy Yards and Naval Stations; Mgr., Div. of Shipyard Plants, Emergency Fleet Corporation, 3238 R St., Washington, D. C.
- ROYALL, EDWARD MANLY. Asst. Civ. Engr., U. S. N. R. F., Public Works Dept., Naval Station, New Orleans, La.
- RUTTAN, HENRY NORLANDE. Brig-Gen.; Cons. Engr., 802 Confederation Life Bldg., Winnipeg, Man., Canada.

MEMBERS (*Continued*)

- SAUNDERS, WALTER BOWEN. Cons. Engr., P. O. Box 1263, Helena, Mont.
- SCHEIDENHELM, FREDERICK WILLIAM. Capt., Engr. R. C., Care, Chf. Engr., Am. Exp. Forces, France.
- SCHERMERHORN, RICHARD, JR. Capt., San. C., U. S. N. A., Camp Dix, Wrightstown, N. J.; Address, 347 Fifth Avenue, New York City.
- SCHREIBER, HERMANN VICTOR. Glenside, Pa.
- SCHULTZ, ALBERT LOUIS. Cons. Engr., Pittsburgh Truck Wheel Corporation, 816 Oliver Bldg., Pittsburgh, Pa.
- SELANDER, JOHN EINAR. Maj., Royal Engrs., Care, A. D. Rys., B. E. F., Italy; Address, Royal Societies Club, St. James St., London, England.
- SHAW, PERCEY AUGUSTUS. Hydr. Engr., L. H. Shattuck, Inc., 430 Walnut St., Manchester, N. H.
- SHAW, SUMNER FARNHAM. 215 East 16th St., South, Portland, Ore.
- SHEPARD, HENRY HUDSON. Gen. Supt., D. L. & W. R. R., Scranton, Pa.
- SHERRON, GEORGE AUSTIN. With MacArthur Bros. Co., 275 South Broad St., Woodbury, N. J.
- SLOAN, WILLIAM GRIFFITH. Maj., Engr. R. C., Constr. Div., 7th and B Sts., S. W., Washington, D. C. (Res., 21 Edgewood Ave., Nutley, N. J.)
- SMITH, CHARLES EDWARD. Maj., Constr. Div., Q. M. C., N. A., Washington, D. C.; Cons. Engr. (C. E. Smith & Co.), 2073 Railway Exchange Bldg., St. Louis, Mo.
- SMITH, CHESTER ALEXANDER. Capt., San. C., N. A., Medical Officers Training Camp, Camp Greenleaf, Chickamauga Park, Ga.; Chf. Engr., Burns & McDonnell, 400 Interstate Bldg., Kansas City, Mo.
- SMITH, M. EVERHART. Pres., Continuous Transit Securities Co. and Multiple Speed & Traction Co.; Cons. Engr., 68 William St., Room 1002, New York City.
- SMITH, ROBERT COLFAX. Maj., Q. M. C., N. A.; Const. Q. M., Schenectady Q. M. Interior Storage Depot, Schenectady, N. Y.
- SMITH, WILSON FITCH. City Mgr., Merchant Shipbuilding Corporation; Agt., U. S. Shipping Board, Emergency Fleet Corporation, Bristol, Pa.
- SMOOT, LLOYD DUVALL. Capt., Q. M. C., N. A., Care, Const. Q. M., Camp A. A. Humphreys, Va.
- STARRETT, WILLIAM AIKEN. Col., Q. M. C., N. A.; Chairman, Committee on Emergency Constr., War Industries Board, Council of National Defense, Washington, D. C.
- STEECE, EMMET ABNER. Supt. of Constr., Federal Bldgs., Arlington Bldg., Washington, D. C.
- STEIN, CHARLES HENRY. Asst. to Gen. Mgr., P. & R. and C. R. R. of N. J., Reading Terminal, Philadelphia, Pa.
- STEINMAN, DAVID BARNARD. Prof. in Chg., Civ. and Mech. Eng., Coll., City of New York, 139th St. and St. Nicholas Terrace, New York City.
- STERN, ISAAC FARBER. Engr. of Constr. Progress, Div. of Wood Composite and Concrete Ship Constr., Emergency Fleet Corporation, Cor., Broad and Cherry Sts., Philadelphia, Pa.

## MEMBERS (Continued)

- STEVENSON, WILLIAM LAWRIE. San. Engr., Dept. of Health and Sanitation, Emergency Fleet Corporation, U. S. Shipping Board, 140 North Broad St. (Res., 57 East Penn St., Germantown), Philadelphia, Pa.
- STONE, SOLON JONES. Care, The John W. Cowper Co., Inc., Fidelity Bldg., Buffalo, N. Y.
- STRUCKMANN, HOLGER. Pres. and Gen. Mgr., International Portland Cement Corporation, 347 Madison Ave., New York City.
- SULLIVAN, VERNON LYLE. Cons. Engr.; Engr. and Mgr., Imperial Irrig. Co.; Constr. Engr., Ward County Water Impvt. Dist. No. 2, 701 Mills Bldg., El Paso, Tex.
- SWAIN, GEORGE FILLMORE. (*Past-President.*) Prof. of Civ. Eng., Harvard Univ. and Mass. Inst. Tech.; Cons. Engr., Mass. Inst. Tech., Cambridge, Mass.
- SWEETSER, CHARLES HERBERT. Capt., Engr. R. C., Co. A, 43d Engrs., Am. Exp. Forces, France (Res., 27 Lawrence St., Wakefield, Mass.)
- SWEZEY, EDWIN CHARLES. Clinton Corners, N. Y.
- TAYLOR, HUGH MCGEEHEE. Maj., Care, D. G. T., A. P. O. 717, Am. Exp. Forces, France.
- TINSLEY, ROBERT BRUCE. Capt., Engr. R. C., Co. A, 605th Engrs., Camp Forrest, Ga.
- TOENNIGES, FERDINAND EMIL. Supt. and Engr., Locust Hill Coal Co., and Other Companies, Room 315, Adams Bldg., Danville, Ill.
- TRELEASE, FRANK JOHNSON. Care, Ford, Bacon & Davis, American Trust Bldg., Birmingham, Ala.
- TRIBUS, LOUIS LINCOLN. Cons. Engr. (Tribus & Massa), 12 Park Row, New York City.
- TROST, ADOLPHUS GUSTAVUS. Archt. (Trost & Trost), Box 271, El Paso, Tex.
- TROUT, HARRY EDGAR. Care, Midvale Steel & Ordnance Co., Nicetown Works, Philadelphia, Pa.
- UHLER, WILLIAM DAVID. Lt.-Col., Q. M. C., N. A.; Chf. Engr., Pennsylvania State Highway Dept., Harrisburg, Pa.
- VERRILL, GEORGE ELLIOT. Maj., Engr. R. C., U. S. Engr. Office, Fort Yellowstone, Mont.
- WAGNER, HARRY EDWARD. Care, Turner Constr. Co., 59th St. and 1st Ave., Brooklyn, N. Y.
- WAITE, HENRY MATSON. Lt.-Col., R. T. C., N. A., Am. Exp. Forces, France; Address, City Bldg., Dayton, Ohio.
- WARREN, HORACE PRETTYMAN. Maj., 55th Engrs., N. A., Am. Exp. Forces, France.
- WATT, DAVID ALEXANDER. Maj., Engr. R. C.; Dist. Engr., U. S. Engr. Office, Florence, Ala.
- WAUGH, WILLIAM HAMMOND. Maj., Engrs., N. A.; Pres. and Engr. Officer, Alaska Road Comm.; Senior Highway Engr., Office of Public Roads and Rural Eng., Juneau, Alaska.



## MEMBERS (Continued)

- WEEKS, WILLIAM CHARLES. Maj., Engrs., N. A., 32d Engrs., Care, Y. M. C. A. Hotel for Officers, Paris, France.
- WEGMANN, EDWARD. Cons. Engr., 14 Morris Crescent, Yonkers, N. Y.
- WEIDMAN, WILLIAM ROE. 1307 West 102d St., Cleveland, Ohio.
- WELLS, DALTON RUSSELL. Archt. and Engr., 2375 Woodward Ave., Detroit, Mich.
- WHITE, ROBERT CULIN. Asst. Chf. Engr., Mo.-Pac. R. R., 1055 Ry. Exchange Bldg., St. Louis, Mo.
- WHITFORD, REID. Res. Engr., 4th Dist., U. S. Shipping Board, Emergency Fleet Corporation, 505 Heard Bldg., Jacksonville, Fla. (Res., 174 Rutledge Ave., Charleston, S. C.)
- WHITNEY, THOMAS BRYAN. Asst. Engr., Erie R. R., 50 Church St., New York City.
- WILLIAMSON, SYDNEY BACON. Lt.-Col., Engrs., N. A.; Address, Care, Lincoln Trust Co., 204 Fifth Ave., New York City.
- WILSON, JOHN. 910 North Stanton St., El Paso, Tex.
- WING, CHARLES BENJAMIN. Maj., Engr. R. C., 23d Engrs., P. O. 708, Am. Exp. Forces, France.
- WOOD, FREDERIC JAMES. Maj., Engr. R. C., Room 3-341, Constr. Div., War Dept., 7th and B Sts., S. W., Washington, D. C.
- WRIGHT, JOSEPH. U. S. Engr. Office, Florence, Ala.
- YATES, PRESTON KING. Cons. Engr., Alcoa, Tenn.

## ASSOCIATE MEMBERS

- ABBOTT, CARL PRESCOTT. Asst. Works Engr., Air Nitrates Corporation, Muscle Shoals, Ala. (Res., 39 Oakwood Ave., White Plains, N. Y.)
- ACHER, ALBERT HILANDS. Maj., Corps of Engrs., U. S. A.; Acting Lt.-Col., 4th Engrs., Am. Exp. Forces, France.
- ACKERMAN, ALEXANDER SEYMOUR. Capt., Engr. R. C., Am. Exp. Forces, France; Address, 11 Francis St., Newport, R. I.
- ACKERMAN, ARTHUR POPE. 1st Lieut., Engr. R. C., 517th Engrs., Camp Gordon, Ga.; Address, Great Barrington, Mass.
- ALBERT, FREDERICK WILHELM. Lt.-Col., Engrs., N. A.; 23 Isham St., Burlington, Vt.
- ALDEN, LANGFORD TAYLOR. Aspirant, 7<sup>e</sup> Batterie, 51st Reg't d'Artillerie, Secteur Postal No. 82 (French Army); Care, Morgan, Harjes Cie., Boulevard Haussmann, Paris, France.
- ALFORD, WILLIAM VALORUS. Encontrados, Venezuela.
- ALLAN, THOMAS JOHN. 578 Orange Ave., Long Beach, Cal.
- ALLEN, MAYNARD EDWARD. Vice-Pres. and Treas., Bailey & Allen Co., Care, Mobile Shipbuilding Co., Mobile, Ala.
- ALSBERG, JULIUS. Cons. Engr., 7 South Dearborn St., Chicago, Ill.
- ANDREWS, CARL BOWERS. Capt., Engr. R. C., E. R. O. T. C., Camp Lee, Petersburg, Va.
- ARCHER, AUGUSTUS ROWLEY. Care, F. C. Noble, 50 Church St., New York City.

ASSOCIATE MEMBERS (*Continued*)

- ARDERY, EDWARD DAHL. Col., Corps of Engrs., U. S. A.; Chf. Gas Officer, 2d Army Corps, Am. Exp. Forces, France; Address, 346 Burns St., Forest Hills, N. Y.
- ARMITAGE, GEORGE WASHINGTON. Capt., Q. M. R. C., Care, Office of Gen. Supt., A. T. S., 104 Broad St., New York City.
- ARMSTRONG, GEORGE SIMPSON. Box 918, Perry, N. Y.
- ARMSTRONG, HARRY ARTHUR. Hydrographer, State Dept. of Eng., Forum Bldg., Sacramento, Cal.
- ARN, WILLIAM GODFREY. Maj., Engrs., N. A., 13th Engrs. (Ry.), U. S. A. Postal Sector 215, Am. Exp. Forces, France.
- ASHTON, RAYMOND. Lieut., A. S., Sig. R. C., Am. Exp. Forces, France.
- AUSTIN, FRANK WILLIS. 424 West 1st St., Chanute, Kans.
- BABBITT, HAROLD EATON. Capt., Engr. R. C., Chf. Engr.'s Office, Adv. Sect., S. O. S., U. S. P. O. No. 714, Am. Exp. Forces, France.
- BAKER, FREDERICK ANDREW. 624 Summer Ave., Newark, N. J.
- BAKER, GEORGE LIVINGSTON. 1st Lieut. Inf. N. A., Fort Niagara, N. Y.; Address, 154 Bishop St., Watertown, N. Y.
- BANDY, EDWARD LEE. 2119 Oak St., Baltimore, Md.
- BASCOM, GEORGE ROCKWELL. Maj., San. C., N. A.; Camp San. Engr., Office of Camp Surgeon, Camp Pike, Ark.
- BASSETT, WILLIAM MANNING. Care, New England Power Co., 26 Harvard St., Worcester, Mass.
- BATTIE, HERBERT SCANDLIN. 1st Lieut., Engr. R. C., Co. L, 3d Engrs. Training Regt., Camp A. A. Humphreys, Va.
- BEAM, CARL EUGENE. 2d Lieut., Engrs. N. A., Co. M, 3d Engr. Training Regt., Camp A. A. Humphreys, Va.
- BEBB, EDWARD CROSBY. Capt., Engr. R. C.; Res., 107 Primrose St., Chevy Chase, Md.
- BECK, EDWARD ADAM. City Mgr., Goldsboro, N. C.
- BEERBOWER, DUMONT. Capt., Engrs. N. A., Co. C, 535th Engrs., Camp Lee, Va.
- BELL, HARRY WALTON. Capt., Engr. R. C., Co. 5 A, E. R. O. T. C., Camp Lee, Petersburg, Va.
- BENHAM, CHARLES, JR. Sales Engr., Wm. Wharton & Co., Inc. (Res., 440 Porter St.), Easton, Pa.
- BENNETT, MANCHE OWEN. Div. Engr., State Highway Comm., Pendleton, Ore.
- BENSON, HENRY CRIST. Res. Supt., Georgia Ry. & Power Co., Tiger, Ga.
- BERGAN, THOMAS BERNARD. Lieut., N. A., Fort Oglethorpe, Ga.; City Engr., Auburn, N. Y.
- BESWICK, JAMES EVERETT. 54 Wall St., New Brighton, N. Y.
- BILLINGS, FRED MERRITT. Capt., Engr. R. C., 4607 Maryland Ave., San Diego, Cal.
- BISHOP, GUY HERSEY. Asst. San. Engr., U. S. Public Health Service, City Hall, Montgomery, Ala.

ASSOCIATE MEMBERS (*Continued*)

- BITHER, TOM ALLEN. 2d Lieut., Sig. R. C., A. S.; Prin. Asst. Engr. Officer, Rockwell Field, San Diego (Res., 1304 Milvia St., Berkeley), Cal.
- BLAAUW, GEERT. Care, Turners Falls Power & Elec. Co., Greenfield, Mass.
- BLEE, CLARENCE EARL. Care, California-Oregon Power Co., Prospect, Ore.
- BODYCOMB, WALTER CHRISTMAS. Supt. of Constr., Westinghouse, Church, Kerr & Co., Inc., Box 52, Cumberland, Md.
- BOLTON, FRANK LEONARD. Capt., Engr. R. C., 20th Engrs., Camp American University, Washington, D. C.
- BOLTZ, THOMAS FRANKLIN. Dist. Engr., Portland Cement Assoc., Union Bank and Trust Bldg., Helena, Mont.
- BOORMAN, KITCHELL MONCKTON. Lieut., Sig. C., U. S. A., 481st Aero Squadron, Am. Exp. Forces, France (Res., 522 West 148th St., New York City).
- BORDEN, GUY. 117 Jackson St., San Antonio, Tex.
- BOSCHKE, GUY. Capt., Engr. R. C., M. P. O. 705, Am. Exp. Forces, France.
- BOWNE, SIDNEY BREESE. 2d Lieut., U. S. Public Health Service, P. O. Box 146, Millington, Tenn.
- BRETT, LAWRENCE. Pres. and Gen. Mgr., Brett Eng. & Contr. Co., Wilson, N. C.
- BRINKLEY, MILO HAMILTON. Capt., Engr. R. C., Office, Chf. of Engrs., Washington, D. C.
- BROGAN, THOMAS BYRNES. 402 Grant Ave., Plainfield, N. J.
- BRONSON, HOWARD FRANKLIN. Capt., San. Corps, N. A., 77th Div., Div. Surgeon's Office, Camp Upton, N. Y.; Address, Riverhead, N. Y.
- BROWN, HARRY WILLIAM. Div. Engr., Zanesville Div., Penn. Lines, W. of Pitts., Zanesville, Ohio.
- BROWN, LEVANT R. Capt., Engr. R. C., 4th E. R. O. T. C., Camp Lee, Petersburg, Va.
- BROWN, ROBERT HUSE. Capt., San. C., N. A.; San. Officer, Camp A. A. Humphreys, Va.
- BRUSH, CARL FLETCHER. Capt., Engr. R. C., A. P. O. 716, Am. Exp. Forces, France.
- BRYAN, CLARK ALBERT. Capt., Engr. R. C., Care, Const. Q. M., Camp Beauregard, La.; Address, Odd Fellows Bldg., Carlisle, Pa.
- BRYSON, CARLYLE HUGO. Contr. Engr., James Kennedy, Lowerotay, Cal.
- BULKELEY, OSCAR ERNEST. Care, Power Dept., Du Pont Eng. Co., Nashville, Tenn.
- BURGESS, EZRA OTTLEY. 926 Hearst Bldg., San Francisco, Cal.
- BUSH, LEE MARSHALL. Central Officer's Training School, Camp Zachary Taylor, Ky. (Res., Burlingame, Kans.)
- BUSHNELL, HOWARD EMORY. Capt., Engr. R. C.; Camp Personnel Officer, Camp A. A. Humphreys, Belvoir, Va.
- BUTLER, MILLARD ANGLE. Col., Q. M. C., N. A.; Const. Q. M., Norfolk Quartermaster Terminal, Norfolk, Va.

## ASSOCIATE MEMBERS (Continued)

- BUXTON, EDWIN WALKER. Res. Engr., Waddell & Son, Market St. Bridge, Shreveport, La.
- CAFFALL, GEOFFREY ARTHUR. Private, No. 1 Coy., Canadian Machine Gun Depot, Seaford, Sussex, England.
- CAMPBELL, CHARLES CECIL. Private, Co. No. 13, Motor Group, Medical Corps, Section B, Camp Greenleaf, Chickamauga Park, Ga. (Res., 870 North Ringgold St., Philadelphia, Pa.)
- CAREY, WILLIAM NELSON. Maj., 1st Bn., 313th Engrs., Camp Dodge, Iowa.
- CARSON, MERVIN BISHOP. Civ. Engr., Inter-Island Steam Navigation Co., Ltd., Honolulu, Hawaii.
- CARTER, EVLANE KEMPER. Capt., Engr. R. C., Co. C, 518th Engrs., Camp Gordon, Va.; Address, 220 Michigan Ave., St. Joseph, Mo.
- CATE, CHARLES EDWARD. Capt., 45th Engrs., N. A., Newington, Va.
- CERNY, JOHN WILLIAM. Maj., Q. M. C., Care, U. S. Const. Q. M., Army Supply Base, 1st Ave. and 58th St., Brooklyn, N. Y.
- CHAMBERLAINE, ROBERT LLOYD. Capt., A. S., Sig. R. C., in Chg. of Planning Dept., Bureau of Aircraft Production, 4th and Missouri Aves., N. W., Washington, D. C.
- CHAMBERLIN, EDWARD CARTER. Care, Pacific Coast Steel Co., 1031 Union Oil Bldg., Los Angeles, Cal.
- CHAPIN, CHARLES WALTER. Care, Roxana Petroleum Corporation, Wood River, Ill.
- CHAPPEL, MILFORD EDWARD. Auditor, Wills & Sons & McCarthy, P. O. Box 163, West Palm Beach, Fla.
- CHRISTENSEN, GEORGE ANDREW. Capt., Q. M. R. C.; Utility Officer, Camp Joseph E. Johnston, Fla.
- CHURCHILL, PERCIVAL MITCHELL. Maj., Engr. R. C., Headquarters, 538th Engrs., Camp Meade, Md. (Res., Elmwood, Mass.)
- CILLEY, MORGAN. Industrial Editor, *Engineering News-Record*, New York City.
- CLARK, JAMES HOPKINS. Asst. Engr., S. P. Co., 122½ West 4th St., Los Angeles, Cal.
- CLARKE, HARRY LEE. 1st Lieut., Engr. R. C., Co. E, 28th Engrs., N. A., Woodbridge, Va.; Address, 111 South Second Ave., Mechanicville, N. Y.
- CLAUSEN, JACOB CENTENNIAL. Supt., Natural Soda Products Co., 629 East Hill Ave., Eagle Rock, Cal.
- COMLY, HARRY SEYKORA. Meteorologist, Sig. C., 32d Service Co., Meteorological Section, U. S. A., College Station, Tex. (Res., 4105 Falcon St., San Diego, Cal.)
- CONKLING, HAROLD. 220 West 26th St., Cheyenne, Wyo.
- COOPER, GILBERT KENYON. Inspection Engr., Chicago Union Station Co., 600 West Jackson Boulevard (Res., 1718 East 55th St.), Chicago, Ill.
- COOPER, SIDNEY WOODDELL. 623 Nineteenth St., N. W., Washington, D. C.

## ASSOCIATE MEMBERS (Continued)

- COPELAND, FREDERICK LUCIUS. Gen. Supt., Bates & Rogers Cons. Co., Hog Island Ship Yard Work, 7 South Front St., Harrisburg, Pa.
- CORNELL, JOHN WESLEY. Capt., Q. M. C., N. A., Army Supply Base, 59th St. and 1st Ave., Brooklyn, N. Y.
- CRANDALL, CARL. Flying Cadet, U. S. Air Service, Dorr Field, Arcadia, Fla.; Address, 316 Hector St., Ithaca, N. Y.
- CRANE, ERNEST BUCHANAN. Asst. Valuation Engr., C. M. & St. P. Ry., 709 Lyon and Healy Bldg., Chicago, Ill.
- CROOKS, CLINTON HERVEY. Capt., Engr. R. C., Camp Lee, Petersburg, Va. (Res., 280 Fort Washington Ave., New York City.)
- CROWELL, FRANCIS STIRLING. Capt., Q. M. C., N. A., Army Supply Base, 1st Ave. and 59th St., Brooklyn, N. Y.
- CUMMIN, GAYLORD CHURCH. Care, The Kelsey Brewer Co., Grand Rapids Savings Bank Bldg., Grand Rapids, Mich.
- CURRIE, THOMAS AUSTIN, JR. Private, Co. D, 301st Inf., Camp Devens, Mass.
- CUTLER, DANIEL BOYDEN. Care, Const. Q. M., Camp Beauregard, Alexandria, La.
- CUTLER, LEON GEORGE. Capt., C. A. R. C., 57th Regt., Artillery, C. A. C., Am. Exp. Forces, France.
- DANFORTH, GEORGE CLAPP. Capt., Engr. R. C., 602d Engrs., Am. Exp. Forces, France.
- DANFORTH, RICHARD STEVENS. Dist. Mgr., Kinney Mfg. Co., 505 Underwood Bldg., San Francisco, Cal.
- DANN, ALEXANDER WILLIAM. Treas. and Asst. Supt., Dravo Contr. Co., 411 North Murtland St., Pittsburgh, Pa.
- DAVIS, ROBERT MENEES. 1st Lieut., Engr. R. C., 57th Engrs. (Inland Waterways), Camp Laurel, Md.
- DAWSON, WILLIAM EDWARD. Care, The Jones & Adams Coal Co., Springfield, Ill.
- DEAN, WILLIS JOHNSON. 1st Lieut., Q. M. C., N. A., Army Supply Base, 59th St. and 1st Ave., Brooklyn, N. Y.
- DEVLIN, HENRY STRATFORD. Asst. Chf. Engr., Central Constr. Corporation, 429 North Eutaw St., Baltimore, Md.
- DE WITT, BRINTON BROWN. Care, Central Santa Lucia, Santa Lucia, Oriente, Cuba.
- DIESEM, HARRY CUSTER. Capt., Engr. R. C.; Commanding Officer, 404th Engr. Depot Detachment, Fort Leavenworth, Kans.
- DILKS, LORENZO CARLISLE. Pres., Carolina Ship Building Corporation, Wilmington, N. C.
- DIXON, DE FOREST HALSTED. Second Vice-Pres., Turner Constr. Co., 244 Madison Ave., New York City (Res., Plandome, N. Y.)
- DODGE, BERT E. With Concrete Ship Div., U. S. Shipping Board, Washington, D. C. (Res., Apartment B, 5419 Chestnut St., Philadelphia, Pa.)

ASSOCIATE MEMBERS (*Continued*)

- DOUGAN, JAMES. Engr. with Clinton & Russell, 239 Moore St., Hackensack, N. J.
- DRISCOLL, WILLIAM. Care, Eng. Dept., United Fruit Co., Preston, Oriente, Cuba.
- DRURY, WILLIAM FISHER. Capt., Engr. R. C., Co. 5, E. O. T. C., Camp Lee, Va.; Address, 4 Greylock St., Waterville, Me.
- DUNHAM, ROBERT MOORE. Paving and Roads Div., The Texas Co., Houston, Tex.
- DUNN, BEVERLY CHARLES. Maj., Corps of Engrs., U. S. A., Camp A. A. Humphreys, Va.
- DUNN, HERBERT LUTHER. Care, The T. A. Scott Co., No. 2, Union Wharf, Portland, Me.
- DUPUY, VICTOR NEWTON. Salesman, Ingersoll-Rand Co., Box L, Juneau, Alaska.
- DURANT, ALDRICH. Care, MacArthur Bros. Co., 120 Broadway, Room 2304, New York City.
- DURANT, WILLIAM BULLARD. 52 Fulton St., Boston, Mass.
- DURBIN, WILLIAM HOWARD. 2504 Hall Pl., Washington, D. C.
- EARL, AUSTIN WILLMOTT. 612 Virginia St., Vallejo, Cal.
- EDGERTON, GLEN EDGAR. Lt.-Col., Corps of Engrs., U. S. A., Camp Forrest, Fort Oglethorpe, Ga.
- EDWARDS, HAROLD. 288 Broadway, Winnipeg, Man., Canada.
- EDY, JOHN NORTH. Asst. Engr., State Highway Comm. of Montana, 310 Fifth Ave., Helena, Mont.
- ELBURY, THOMAS GEORGE. Municipal Contr., 50 Golden Gate Ave., San Francisco, Cal.
- ELIOT, WILLIAM MACK. Office Engr., Houston Structural Steel Co., 728 Arlington St., Houston Heights, Tex.
- ELLETT, TAZEWEEL, JR. 401 Park Ave., Baltimore, Md.
- ELLIOTT, JOHN ARTHUR. Highway Engr., Office of Public Roads, 118 West 23d St., Vancouver, Wash.
- EMERSON, GEORGE DANA. Div. Engr., Boston Transit Comm., 162 Walnut St., Brookline, Mass.
- EURICH, RICHARD HENDERSON. 48 Second Ave., Newark, N. J.
- FAHY, JOSEPH AUGUSTINE. Capt., Engrs. N. A., Co. D, 518th Engrs., Camp Gordon, Atlanta, Ga.
- FAIRCHILD, JOHN FLETCHER. Maj., Q. M. C., Brigade Headquarters, First Corps Troops, Camp Wadsworth, Spartanburg, S. C.
- FAIRLIE, JOHN WALTER. 1st Canadian Exp. Force (*Retired*); Concrete Engr., H. D. Best Co., 66 West 40th St., New York City.
- FABLEY, WILLIAM FREDERICK. 249 Bacon St., Waltham, Mass.
- FELLOWS, PERRY AUGUSTUS. Mech. Director, Frederick Stearns & Co., 213 Field Ave., Detroit, Mich.
- FERNALD, GORDON HILDRETH. Capt., Engrs., N. A., Co. D, 304th Engrs., Camp Meade, Md.



ASSOCIATE MEMBERS (*Continued*)

- FINCH, FRANK HAMILTON. Asst. Engr., Designing and Estimating, Eng. Dept., McClintic-Marshall Co., 2740 Amman St., South Hills, Pittsburgh, Pa.
- FISK, CLINTON HINCKLEY. Maj., Q. M. C., N. A., Burlington Hotel, Washington, D. C.; Address, 5142 Westminister Pl., St. Louis, Mo.
- FÖLLING, BJARNE NICOLAS. Capt., Engrs. N. A.; Adj., Engr. Troops, Fort Myer, Va.
- FOSS, JAMES CALVIN, JR. With Spreckels Sugar Co., Spreckels, Cal.
- FOSS, JOHN HARRISON. Paia, Maui, Hawaii.
- FOUGNER, HERMANN. Pres., Fougner Concrete Shipbuilding Co., Inc., 50 Pine St., New York City.
- FOUNTAIN, THOMAS LILLY. Capt., Engr. R. C., Care C. O. 17th Engrs. (Ry.), U. S. Army Post Office 701, Am. Exp. Forces, France.
- FRAME, STANLEY HOWARD. Asst. Engr., Dept. of Natural Resources, C. P. Ry., Brooks, Alberta, Canada.
- FRENCH, CHARLES RAUCH. Box 331, Mays Landing, N. J.
- FROST, EDWARD MURRAY. Asst. Civ. Engr., U. S. N. R. F.; Address, 528 Pleasant St., Westfield, N. J.
- GAILOR, CHESTER FRANCIS. Maj., Q. M. C., N. A., Constr. Div., Administrative Branch, 7th and B Sts., Washington, D. C.
- GANDOLFO, JOSEPH HARRINGTON. Civ. Engr., Westinghouse, Church, Kerr & Co., 37 Wall St., New York City.
- GARNER, CHESTER ARTHUR. Care, Maintenance Dept., C. & E. I. R. R., 222 Chandler Ave., Evansville, Ind.
- GATENS, RAY STUART. 1st Lieut., Engr. R. C., Co. C, 42d Engrs., Am. Exp. Forces, France; Address, Box 440, Houston, Tex.
- GELWIX, DANIEL EDMUND. Asst. Dist. Engr., St. Louis-San Francisco Ry., 613 Frisco Bldg., St. Louis, Mo.
- GIESEN, WALTER EDWARD. Private, U. S. M. C., Co. 269, Bn. W, Paris Island, S. C.
- GIFFELS, WILLIAM CHARLES. 1st Lieut., Engr. R. C.; St. Johns, Mich.
- GILMAN, EDGAR DOW. 1st Lieut., 473d Engrs., N. A., Camp A. A. Humphreys, Accotink, Va.
- GLANDER, JOHN HENRY, JR. Asst. Civ. Engr., U. S. N. R. F. (rank of Ensign), 617 G St., N. W., Washington, D. C.
- GODFREY, STUART CHAPIN. Lt.-Col., Engrs., N. A., Headquarters, 318th Engrs., Am. Exp. Forces, France.
- GOLDBECK, ALBERT THEODORE. Engr. of Tests, U. S. Office of Public Roads and Rural Eng., 5104 Thirteenth St., N. W., Washington, D. C.
- GORHAM, FRED ALLEN. Box 308, Anaconda, Mont.
- GOULD, AUGUSTUS GEORGE. Vice-Pres., The Gould Const. Co., 855 South Main St., Kankakee, Ill.
- GRAM, RALPH SAMUEL. Engr., Langdon & Hohly, Menominee, Mich.
- GRAY, JOHN LATHROP. Mgr., Mfg. Dept., Pierce Oil Corporation, 25 Broad St., New York City.

ASSOCIATE MEMBERS (*Continued*)

- GRIMES, ERNEST EDMUND. Care, Knight Investment Co., Knight Blk., Provo, Utah.
- GRUNAUER, MORTIMER. Headquarters Co., 304th F. A., Am. Exp. Forces, France.
- GUINOTTE, JOHN. Dist. Engr., C., M. & St. P. Ry., Room 216, O.-W. Depot, Seattle, Wash.
- GUISSINGER, JOHN ADAMS. Care, Westinghouse, Church, Kerr & Co., Muscle Shoals, Ala.
- HAAS, PHILIP LIPPMAN. Capt., Engr. R. C., 5th Co., E. O. R. T. C., Camp Lee, Petersburg, Va. (Res., 11 Fountain Pl., Poughkeepsie, N. Y.)
- HALDEMAN, WALTER STANLEY. Capt., Engr. R. C.; Eng. Officer, O. T. C., Camp Funston, Kans.
- HALE, PHILIP JEWETT. 238 North 5th St., Steubenville, Ohio.
- HALL, BENJAMIN MORTIMER, JR. 1st Lieut., Engr. R. C., Co. B, 26th Engrs., A. P. O. No. 701, Am. Exp. Forces, France; (B. M. Hall & Sons), Peters Bldg., Atlanta, Ga.
- HALL, WARREN ESTERLY. Capt., Engr. R. C., Co. D, 506th Engrs. (Service Bn.), Base No. 2, Am. Exp. Forces, France; (B. M. Hall & Sons), Peters Bldg., Atlanta, Ga.
- HALLETT, JAMES HENDRICKS. Res. Engr., Mass. Highway Comm.; Res., Wilmington, Mass.
- HAMMOND, JOHN MILLER. Capt., Q. M. C., N. A., Constr. Div., 3334 Seventeenth St., N. W., Washington, D. C.
- HANIQUE, JULES EDMOND. Maj., Engrs., N. A., 537th Engrs., Am. Exp. Forces, France.
- HARMON, IVAN GUY. Engr. and Contr., Thomas-Harmon Co., P. O. Box 815, San Antonio, Tex.
- HARMON, WATSON GILBERT. Capt., San. C., N. A., 305 Valentine Bldg., Toledo, Ohio.
- HART, LAURANCE HASTINGS. Care, Ferguson Steel & Iron Co., Shipbuilding Dept., 1399 Bailey Ave., Buffalo, N. Y.
- HASKINS, JOHN CHRISTOPHER. 1st Lieut., Engr. R. C., 22d Engrs., Fort Benjamin Harrison, Ind. (Res., Newbern, Tenn.).
- HASTINGS, RUSSELL PLATT. 1st Lieut., Engr. R. C., Co. D, 26th Engrs., Camp Dix, N. J.; Address, Care, Mrs. R. P. Hastings, Petersham, Mass.
- HATCH, EVERETT HAMILTON. 2506 L St., Sacramento, Cal.
- HAVENS, WILLIAM WESTERFIELD. Asst. Engr., Liquid Air Div., Air Nitrates Corporation, 469 Fifth Ave. (Res., 2231 Grand Boulevard and Concourse), New York City.
- HECK, NICHOLAS HUNTER. Lieut., U. S. N. R. F., 42 Perry St., New London, Conn.
- HEED, SAMUEL DARLINGTON. Capt., Ord. R. C., Philadelphia Dist. Office, 1710 Market St., Philadelphia, Pa.; Address, 410 Miner St., West Chester, Pa.

ASSOCIATE MEMBERS (*Continued*)

- HELLYER, HENRY AMYATT CHAUNDY. Borough Engr., Bergenfield; Engr. and Mgr., Tenaflly Supply Co., Tenaflly, N. J.
- HENDRICKS, SEWARD DANIEL. The Mentz, Niagara Falls, N. Y.
- HENNING, CHARLES SUMNER, JR. Master Engr., Co. A, 21st Engrs., Am. Exp. Forces, France.
- HENRIQUES, EDWARD JOSEPH. Acting Asst. Engr., Mobile & Ohio R. R., Mobile, Ala.
- HENRY, DAVID EDWARD. Senior Highway Engr., Office of Public Roads and Rural Eng., 202 Broadway-Yamhill Bldg., Portland, Ore.
- HENRY, EARLE UNDERWOOD. 1st Lieut., Engr. R. C., 116th Engrs., Care, D. G. T., A. P. O. No. 717, Am. Exp. Forces, France.
- HERZIG, SOLON. 1st Lieut., Engr. R. C., Co. F, 25th Engrs., Am. Exp. Forces, France.
- HILDER, FRAZER CROSWELL. Capt., Engr. R. C., Goring Hotel, Grosvenor Gardens, London, W. 1, England.
- HILL, WALTER NICKERSON. Asst. Engr., U. S. Reclamation Service, El Paso, Tex.
- HINDS, ARTHUR KLOCK. Care, Emergency Fleet Corporation, 826 Weightman Bldg., Philadelphia, Pa.
- HODGDON, JOHN BREWSTER. Stone City, Colo.
- HOFF, CARL PORTER. Van Buren, Mo.
- HOFFMAN, EUGENE ROBERT. Private, Headquarters Detachment, 26th Engrs., Am. Exp. Forces, France.
- HOFFMANN, ALFRED WILLY. Structural Engr., Kirchhoff & Rose, 1311 Majestic Bldg., Milwaukee, Wis.
- HOGAN, JOSEPH VINCENT. 6219 Delancey St., Philadelphia, Pa.
- HOHL, LEONARD LOUIS. Care, Eng. Dept., The Shell Co. of California, Martinez, Cal.
- HOPKINSON, GEORGE MARTIN. Capt., Q. M. C., N. A., U. S. Ordnance Depot, Curtis Bay, Baltimore, Md.
- HORRIGAN, WILLIAM JAMES. Cons. and Const. Engr. with H. M. Wilkes Co., P. O. Box 31, Americus, Ga.
- HOWELL, CLARENCE SCOTT. Capt., Engr. R. C.; 550 West 174th St., New York City.
- HUBER, JOSEPH EARL. Care, 1st Training Co., 5th Coast Artillery Training Camp, Fort Monroe, Va.
- HUBER, WILLIAM THOMAS. Capt., Engr. R. C., Co. D, 2d Engr. Training Regt., Camp A. A. Humphreys, Va.
- HUGHES, GEORGE LEYBURN. 2d Lieut., Engrs., N. A., Camp American University, Washington, D. C.
- HUNT, LEIGH ANSON. Maj., 110th Engrs., Am. Exp. Forces, France.
- HUNT, NELSON BARNES. Asst. Engr., U. S. Reclamation Service, Tramway Bldg., Denver, Colo.
- HUNTSMAN, FRANK C. Div. Engr., C, B. & Q. R. R., Care, Y. M. C. A., Springfield, Ill.

ASSOCIATE MEMBERS (*Continued*)

- HUSTED, ALVA GUY. Capt., San. C., N. A., Camp Surgeon's Office, Camp Wadsworth, S. C.
- HUSTON, TILLINGHAST L'HOMMEDIEU. Maj., Engr. R. C., 1st Bn., 16th Engrs. (Ry.), Am. Exp. Forces, France.
- HUTCHINS, HARRY CROCKER. Civ. Engr., Constr. Div., Eng. Branch, War Dept., 7th and B St., S. W. (Res., 1214 Emerson St., N. W.), Washington, D. C.
- HUTTON, MURRAY LEE. Hallock, Minn.
- HYNDS, HAROLD DEVILLO. 1st Lieut., Sig. R. C., A. S.; Address, Palace Hotel, San Francisco, Cal.
- JACOBOSKY, GILBERT GARFIELD. Capt., Co. B, 55th Engrs., Am. Exp. Forces, France (Res., 211 South Main St., Wilkes-Barre, Pa.)
- JACQUES, HENRY LOUIS. Capt., Engr. R. C., 465 South Clarkson St., Denver, Colo.
- JAMES, ALFRED RANDOLPH. 1st Lieut., Q. M. C., N. A., Care, Adj. Gen., U. S. A., Washington, D. C.
- JAMISON, RICHARD HARVEY. Engr., Harrop, Hopkins & Taylor, 819 Holland Ave., Wilkinsburg, Pa.
- JOHNSON, JOHN MONROE. Lt.-Col., 117th Engrs., Am. Exp. Forces, France.
- JONES, PERCIVAL CHARLES. Corporal, Co. G, 23d Engrs., A. P. O. No. 716, Am. Exp. Forces, France; Address, 200 Elmwood Ave., East Orange, N. J.
- JONES, SIDNEY GARDNER. Capt., Engr. R. C., Headquarters Co., 35th Engrs., Am. P. O. 735, Am. Exp. Forces, France.
- JORDAN, MYRON KENDALL. Checker, Am. Bridge Co., Gary Plant, 7600 Champlain Ave., Chicago, Ill.
- JOUINE, GEORGES PIERRE FERDINAND. Sous Lieut. au 81<sup>ème</sup> Regt. d'Artillerie, A. S. 14, par B. C. M., France.
- KANE, IRVING PATTERSON. Capt., Engr. R. C., Headquarters, 45th Engrs., Camp A. A. Humphreys, Va. (Res., Long Green, Md.).
- KARNOPP, EDWIN BENJAMIN. Capt., Engr. R. C., 2d Bn., 22d Engrs., Fort Benjamin Harrison, Ind.; Address, 440 Riverside Drive, New York City.
- KELLERSBERGER, ARNOLD CHARLES. 1520 Patterson St., Houston, Tex.
- KEMMERER, JOHN MARTIN. 910 South Michigan Ave., Room 911, Chicago, Ill.
- KENDALL, FRANK B. Asst. Engr., S. P. Co., Care, Div. Engr., S. P. Co., Tucson, Ariz.
- KENNISON, KARL RAYMOND. Superv. Engr., Div. of Shipyard Plants, Emergency Fleet Corporation, Box 1569, Mobile, Ala.
- KETCHAM, VALENTINE ODELL. Res. Engr., Carney's Point Plant, E. I. du Pont de Nemours & Co., Carney's Point, N. J.
- KILBY, CHARLES CHRISTOPHER. 1098 Farmington Ave., West Hartford, Conn.
- KIMMEL, EDGAR AUGUSTUS. Marcellino Ramos, Rio Grande do Sul, Brazil.

ASSOCIATE MEMBERS (*Continued*)

- KING, ARTHUR CASWELL. Junior Asst. Engr., Housing Dept., U. S. Shipping Board, Emergency Fleet Corporation, Philadelphia (Res., 44 Berkly Ave., Lansdowne, Pa.).
- KING, ERIC TURE. Maj., Q. M. C., N. A.; Address, Arrochar, N. Y.
- KING, ROYCE DANIEL. Care, Wilputte Coke Oven Corporation, Box 423, Indianapolis, Ind.
- KINGSOTT, WALTER JOHN. Asst. Dist. Engr., State Highway Dept., Cadillac, Mich.
- KINGSLEY, GEORGE. Capt., Engr. R. C., Co. 1, E. O. T. C., Camp Lee, Va.
- KIRBY, GEORGE LESLIE. Bridge and Structural Engr., Massillon Bridge & Steel Co., Box 83, Lakeland, Mich.
- KITTREDGE, FRANK ALVAH. Capt., 43d Engrs., Am. Exp. Forces, France; Address, 4130 Eleventh, N. E., Seattle, Wash.
- KNAP, EDGAR DAY. Field Secy., Y. M. C. A., Am. Exp. Forces, France.
- KNOLLMAN, ENNO PAUL. Ensign, U. S. N. R. F., Ord. Dept., U. S. N., Navy Yard, Washington, D. C. (Res., 30 East Lane Ave., Columbus, Ohio.)
- KOOP, LOUIS DIETRICH. Capt., Q. M. C., N. A.; Const. Q. M., Camp Wadsworth, Spartanburg, S. C.
- KRIEGER, ALBERT AUGUST. 4809 Windsor Ave., Philadelphia, Pa.
- KYLE, RALPH BRIGGS. Engr. for Statistics, U. S. Shipping Board, Emergency Fleet Corporation, 505 Heard Bldg., Jacksonville, Fla.
- LANCASHIRE, FOREST HENRY. Capt., Engr. R. C., Office, Chf. of Engrs., War Dept., Washington, D. C.
- LA ROCHE, ARTHUR LEWIS. 1st Lieut., Engr. R. C., Am. Exp. Forces, France; Deputy City Engr., City Engr.'s Office, Binghamton, N. Y.
- LAU, PERCEY MAPES. Highway Engr., 196 North Saginaw St., Pontiac, Mich.
- LAWRENCE, FRANK ELMAKER. Capt., 17th Engrs. (Ry.), Am. Exp. Forces, France; Care, C. K. Lawrence, 415 West 36th St., Savannah, Ga.
- LAWRIE, JAMES MUIR. London Mgr., Trussed Concrete Steel Co. of Detroit, 415 Bank Chambers, 329 High Holborn, London, W. C. 1, England.
- LAWTON, FREDERICK TYLER. Asst. Engr., Dept. of New York State Engr. and Surv., 122 Jeffery Ave., Jamaica, N. Y.
- LEARNED, CLYDE EMERSON. Office of Public Roads and Rural Eng., Dept. of Agriculture, Denver, Colo.
- LEBARON, ROBERT WENDELL PHILLIPS. 1st Lieut., Co. C, 13th Engrs., U. S. A., Am. Exp. Forces, France.
- LECKLITER, WALTER HARLAN. Supt. of Constr., Akin & Flutter, Corning, Iowa.
- LEE, CHARLES AVERY. Lieut. (Senior Grade), U. S. N. R. F., Navy Dept., Bureau of Yards and Docks, Washington, D. C.
- LEWALD, ALFRED. Supt., Sewers, Portner Bros., Norfolk Q. M. Terminal, Norfolk, Va.

ASSOCIATE MEMBERS (*Continued*)

- LEWIS, LUTHER HAMMOND. Maj., Q. M. C., N. A., Room 3-309, Constr. Div., 7th and B Sts., S. W., Washington, D. C.
- LEWIS, OTIS FURMAN. Dept. of State Engr., Barge Canal Office, Fultonville, N. Y.
- LIGHTNER, GEORGE W. CASS. Capt. and Supply Officer, 21st Engrs. (Light Rys.), Am. Exp. Forces, France.
- LINDSAY, RICHARD LEE. Attorney-at-Law; Box 417, Pulaski, Va.
- LINTON, THOMAS EDWIN. Coklay, Pa.
- LODGE, JOHN. 3401 Lowell St., Washington, D. C.
- LORING, HENRY DELANO. Chf. Engr., The Ferro Concrete Constr. Co., 2980 Linwood Rd., Cincinnati, Ohio.
- LOUGHRAN, HAROLD SCOTT. Engr. in Chg. of Substation Location, Air Nitrates Corporation, Muscle Shoals, Ala.
- LUMSDEN, HUGH JOHN. Capt., Q. M. C., N. A., 1660 Munroe St., N. W., Washington, D. C.
- LYNCH, ALEXANDER SYDNEY. 341 Center St., West Haven, Conn.
- MACINTOSH, PERCY HUGH MARSHALL. Capt., Tropical Force, Rabaul, New Guinea; Address, Care, Peter G. Tait, 273 George St., Sydney, N. S. W., Australia.
- MACKENZIE, LEON RODERICK. Capt., Q. M. C., Constr. Bn.; Address, Box 625, Hartington, Nebr.
- MACNAUGHTON, PERCIVAL JOHN. Asst. Civ. Engr., U. S. N. R. F., William Penn P. O., Pa.
- MCCABE, JOHN JOSEPH. Asst. Engr., U. S. Engr. Office, Federal Bldg., Florence, Ala.
- MCCANN, WILLIAM RAY. Asst. Purchasing Officer, Emergency Fleet Corporation, Cor., Broad and Cherry Sts., Philadelphia, Pa.
- MCCLAINE, JAMES BROWNSON. Bridge Engr., Seaboard A. L. Ry., 1220 Royster Bldg., Norfolk, Va.
- MCCLELLAN, GEORGE ABRAHAM. Lieut., Sig. C., A. S., Chanute Field, Rantoul, Ill.
- MCCCLINTOCK, HALLETT EDWARD. Capt., Engr. R. C., Care, D. C. and F., A. P. O. 717, Am. Exp. Forces, France; Address, 1810 Manderson St., Omaha, Nebr.
- MCCONNELL, EDWARD HERBERT. 1st Lieut., Engr. R. C., Am. Exp. Forces, France.
- MCDONALD, HARRY L. Capt., Engr. R. C., Care, University Club, Washington, D. C.
- MCDONNELL, FRANCIS REGIS. Lieut. (Junior Grade), U. S. N. R. F.; Address, 1430 Park Ave., Baltimore, Md.
- MCGEE, ROGER KEYS. Capt., Engr. R. C., Co. 5, E. R. O. T. C., Camp Lee, Va.; Address, 636 Wayne Ave., Indiana, Pa.
- MCINTOSH, SAMUEL FRASER. Capt., Ord. R. C., U. S. A., Washington, D. C.; Address, 1401 Turks Head Bldg., Providence, R. I.
- MCINTYRE, LEWIS WEDSEL. Candidate, 6th Co., C. A. C. 5th Training Camp, Fort Monroe, Va.



ASSOCIATE MEMBERS (*Continued*)

- McLAREN, ARTHUR ANTHONY. Care, Ontario Power Co., Box 36, Niagara Falls, Ont., Canada.
- McMILLAN, FRANKLIN R. Research Engr., Emergency Fleet Corporation, Dept. of Concrete Ship Constr., Emergency Fleet Corporation Bldg., Philadelphia, Pa.
- McSWAIN, THOMAS RUCKER. Route 3, Merced, Cal.
- MAERKER, ERWIN. Care, F. H. Martin, 311 Falls St., Niagara Falls, N. Y.
- MARSTON, FRANK ALWYN. Designing Engr., Metcalf & Eddy, 145 Grand View Ave., Wollaston, Mass.
- MARTIN, CHARLES CHRISTOPHER. Care, War Dept., Box 614, Fayetteville, N. C.
- MATSON, THOMAS HATCHER. 1813 North Piedras St., El Paso, Tex.
- MEAD, ROYAL LEE. Care, Brown Hoisting Machinery Co., Cleveland, Ohio.
- MELICK, NEAL ALBERT. Efficiency Insp., Submarine Boat Corporation, 420 Magie St., Elizabeth, N. J.
- MESSER, HOPE RICHARD. Q. M. C. N. A., Maintenance and Repair Branch, Constr. Div., 119 Fifth St., N. E., Washington, D. C.; Address, 1110 Capitol St., Richmond, Va.
- MIDDLETON, ROBERT JAMES. Asst. Chf. Engr., Puget Sound Lines, C., M. & St. P. Ry., Room 617, White Bldg., Seattle, Wash.
- MILES, GEORGE FREDERICK. Capt., Engrs. N. A.; Adj., 8th Bn., 20th Engrs., Am. Exp. Forces, France; Pres. and Treas., A. Sackett, Inc., 108 Worth St., New York City.
- MILHOLLAND, CLARENCE VICTOR. Levelman, Transitman, and Field Engr., B. & O. R. R., 2734 Alameda Ave., Baltimore, Md.
- MILLER, HAROLD EDMUND. Asst. Engr., Cent. Vt. Ry., 43 Laura St., Providence, R. I.
- MILLS, GUY G. Capt., Engrs., N. A., Constr. Div., Gen. Staff, 7th and B Sts., N. W., Washington, D. C.
- MINER, JAMES HENRY. 3331 Walnut St., Philadelphia, Pa.
- MOLINA, VICENTE. 1720 Spring Garden St., Philadelphia, Pa.
- MONK, PERCEY SHELLEY. 1st Lieut., Engr. R. C., Co. F, 604th Engrs., Washington Barracks, Washington, D. C.
- MOOMAW, DALTON. Road Engr., Cuyahoga County, 3221 Sycamore Rd., Cleveland Heights, Ohio.
- MORE, CHARLES CHURCH. Capt., Ord. R. C., Care, Prof. W. E. Duckering, 5009 Twenty-first Ave., N. E., Seattle, Wash.
- MORRISON, ROGER LEROY. Prof. of Highway Eng., Agricultural and Mech. Coll. of Texas, College Station, Tex.
- MORRISON, THOMAS EDWARD. Mgr., Scale Dept., Fairbanks, Morse & Co., St. Louis (Res., 320 Central Pl., Kirkwood), Mo.
- MORROW, BEN STODGEN. Capt., Engr. R. C., Fort Riley, Kans.; Address, Engr.'s Office, Water Bureau, Portland, Ore.
- MORTON, LEON LINCOLN. Capt., Engr. R. C., Co. A, 7th U. S. Engrs., Am. Exp. Forces, France.
- MOSES, CARROLL. 1370 Moss St., New Orleans, La.

ASSOCIATE MEMBERS (*Continued*)

- MOSS, WILLIAM BENJAMIN. Capt., Engr. R. C., Co. D, 528th Engrs.; Address, 36 Pommer Ave., Tompkinsville, N. Y.
- MUIR, JAMES CECIL. Room 411, Singer Bldg., New York City.
- MURPHY, ALVIN RUSH. Capt., Engr. R. C., Water Supply Service, Am. Exp. Forces, France; Address, Fountain City, Tenn.
- MURPHY, JAMES FRANCIS. Care, Beaver Eng. & Contr. Co., Accotink, Va.
- MURPHY, JAMES JOSEPH. Capt., Engr. R. C., Co. D, 523d Engrs., Am. Exp. Forces, France; Address, 199 Cherry St., Detroit, Mich.
- MURPHY, JAMES LEO. Mandeville, Jamaica.
- NALDER, WILLIAM HENRY. Care, U. S. Reclamation Service, Tramway Bldg., Denver, Colo.
- NANCE, ARCHIBALD WHITFIELD. 2d Lieut., Ord. C., N. A., Constr. Engr.'s Div., Sheffield, Ala.; Secy. and Treas., Farris Eng. Co., Empire Bldg., Pittsburgh, Pa.
- NEEDHAM, EGBERT STEPHEN. Private, Co. A, 43d Bn., 20th Engrs., Camp American University, Washington, D. C.; Address, 968 Lincoln Ave., St. Paul, Minn.
- NEWHALL, WILLIAM BARRETT. Capt., Engr. R. C., Care, United Service Club of America, Dupont Circle, Washington, D. C.
- NEWKIRK, SAMUEL FRANK, JR. Care, Eng. Dept., Air Nitrates Corporation, Muscle Shoals, Ala.
- NEWTON, SAMUEL DONALD. Care, Carolina Cotton & Woolen Mills Co., Fieldale Dept., Martinsville, Va.
- NIAL, WILLIAM AUGUSTINE. Capt., Engr. R. C., Office, Chf. of Engrs., War Dept. (Care, Mrs. S. B. Cook, 1506 P St., N. W.), Washington, D. C.
- NIXON, COURTLAND. Maj., U. S. A.; A. Q. M., Care, Adjt.-Gen., U. S. A., Washington, D. C.
- NOBLE, GUY LYNN. Capt., Q. M. C., N. A., Camp Stuart, Newport News, Va.
- NOLAND, CLARENCE J. Asst. Engr., Valuation Dept., Ill. Cent. R. R., Gen. Offices, 6438 Thirty-third St., Berwyn, Ill.
- NORRIS, JOHN ALEXANDER. Care, Board of Water Engrs., State of Texas, Austin, Tex.
- NORTH, ROBERT GASTON. Capt., 605th Engrs., Camp Forrest, Ga.
- OPENSHAW, JOHN EDWARD. Lieut., Canadian Engrs., C. E. F.; Address, 88 Church Hill, Westmount, Que., Canada.
- O'ROURKE, BERNARD JOHN. 1st Lieut., Sig. R. C., A. S., 5th Constr. Bl. Co., U. S. Air Service, 35 Eaton Pl., London, S. W. 1, England (Res., 1003 Walnut Ave., Syracuse, N. Y.)
- OXER, GEORGE CARROL. Maj., Engr. R. C., Am. Exp. Forces, France.
- PALMER, WALLACE CROMWELL ALLEN. Capt., Engr. R. C. (*Unassigned*); Div. Supt., Philippine Ry., Cebu, Cebu, Philippine Islands.
- PARKER, HENRY BRACKETTE. Paimboeuf, Loire, Inf., Care, New York Postmaster; Address, Box 123, Schoharie, N. Y.

ASSOCIATE MEMBERS (*Continued*)

- PAYNE, LOUIS WATTERS. Master Engr., Senior Grade, Headquarters Co., 2d Bn., 22d Engrs., Am. Exp. Forces, France; Address, 3605 Fourteenth St., N. W., Washington, D. C.
- PEABODY, ALONZO ORRAN. Box No. 111, Santa Fe, N. Mex.
- PETERS, ALBERT AYER. Maj., Engrs. N. A., Regimental Headquarters, 23d Engrs. U. S. A. P. O. 708, Am. Exp. Forces, France.
- PETERSON, OTTO WALLACE. Supt. of Constr., Pacific Gas & Elec. Co., 445 Sutter St., Room 834, San Francisco, Cal.
- PHILLIPS, CLIFFORD FRENCH. Cons. Engr., 604 Kings Highway Park, St. Louis, Mo.
- PIRNIE, HERBERT MALCOLM. Lieut.; Asst. Engr., Headquarters, Director General of Transportation, Am. Exp. Forces, France; Cons. Engr. (Hazen, Whipple & Fuller), 30 East 42d St., New York City.
- PLUMLEY, MARION STUART. Director, Eng. and Research Dept., Davis-Bournonville Co., Jersey City (Res., 712 Embree Crescent, Westfield), N. J.
- PORTER, ARTHUR MILLER. Care, Shell Oil Co., Oilfields, Cal.
- PORTER, RALPH WALDO. 403 Hastings St., Pittsburgh, Pa.
- POWELL, WILLIAM JENNER. Capt., Engr. R. C., Co. A, 66th Engrs., Camp Laurel, Md.
- PRICE, JOSEPH PAUL. R. F. D. No. 2, Ravenna, Ohio.
- PUCKETT, HOMER. Capt., Engr. R. C.; Address, Hodgenville, Ky.
- PURCELL, STEUART. Capt., Engrs. R. C., Engr. Depot, Hoboken, N. J.; Address, Hilton and Baker Sts., Baltimore, Md.
- PYZEL, EWALD. Prescott, Ariz.
- QUARLES, BEN TARVER. Breckenridge, Tex.
- QUINN, THOMAS FRANCIS. 1st Lieut., Engr. R. C., 15th Engrs., U. S. A. P. O. 741, Am. Exp. Forces, France.
- RAY, FRANK OLIVER. Contr. Engr., 1033 East Evans, Pueblo, Colo.
- RAY, ROBERT BRIGHT. Asst. to Officer in Chg., Engr. Div., Const. Q. M.'s Office, Camp Fremont, Cal.; Address, 205 Hopkins Ave., Redwood City, Cal.
- REAM, WARD HALL. 1st Lieut., Engr. R. C., Co. C, 305th Engrs., Am. Exp. Forces, France.
- REDDICK, JOHN BURKE. 2616 Ashby Ave., Berkeley, Cal.
- REDING, JAMES HANDEYSIDE. Capt., U. S. N. G., Co. A, 112th Engrs., Camp Lee, Va.
- REEDER, HARRY CALVIN. 1st Lieut., Engr. R. C., 9th Co., Camp Lee, Petersburg, Va.
- REES, BIRD LE GRAND. Capt., Q. M. C., N. A., Constr. Div., 7th and B Sts., Washington, D. C.
- REID, HOMER AUSTIN. Cons. Engr. (Res., 103 Montague St.), Brooklyn, N. Y.
- REIMER, ARTHUR ADAMS. 45 South Maple Ave., East Orange, N. J.

ASSOCIATE MEMBERS (*Continued*)

- REYNOLDS, LAFAYETTE CLOWE. Mgr., Motor Plant, Oakland Motor Car Co. (Res., 314 Oakland Ave.), Pontiac, Mich.
- RHODES, GLENN VERNON. 152 Twelfth Ave., San Francisco, Cal.
- RICE, JOHN TURNER. Capt., Engr. R. C., Co. B, 2d Engr. Training Regt., Camp A. A. Humphreys, Va.
- RICE, PHILIP DURKEE. Engr., Redwood Mfrs. Co., 1600 Hobart Bldg., San Francisco, Cal.
- RICH, MELVIN S. 1st Lieut., Engr. R. C., G. P. A. Labor Bureau, A. P. O. 702, Am. Exp. Forces, France; Address, 1448 Harvard St., N. W., Washington, D. C.
- RICHARDS, ARTHUR. Cons. Civ. and Municipal Engr. (Richards Eng. Co.), 48 East Long St., Columbus, Ohio.
- RICHARDSON, CHARLES POTTER. Asst. Engr., Track Elev., Rock Island Lines (Res., 7205 Stewart Ave.), Chicago, Ill.
- RICHARDSON, JAMES HERBERT. Capt., Engr. R. C., Office, Chf. of Engrs., U. S. A., Washington, D. C.
- RICHARDSON, REX DENSMORE. Capt., Engr. R. C., Co. 5 A, E. R. O. T. C., Camp Lee, Petersburg, Va.; Pres., R. D. Richardson Constr. Co., Scranton, Pa.
- RIDDLE, WILLIAM CATHCART. Capt., San. C.; San. Insp., Aeronautical General Supply Depot and Concentration Camp, Garden City, N. Y.
- ROBERTS, HARRY ASHTON. Capt., Engr. R. C., Care, The Shipping Control Committee, 45 Broadway, New York City.
- ROBERTS, RICHARD FRANCIS. Mech. Engr., Bureau of Aircraft Production, 1371 Quincy St., N. W., Washington, D. C.
- ROBERTSON, STANLEY HORTON. Asst. Mgr. and Purchasing Agt., The O. B. Andrews Co.; Pres., Chattanooga San. Closet Co., Chattanooga (Res., Box 121, Lookout Mountain), Tenn.
- ROBINSON, EDWARD WILLIAM. Capt., Engr. R. C., Chf. Engr.'s Office, Washington, D. C.
- ROBINSON, JOHN HARVEY. Private, Co. B, 314th Machine Gun Bn., Am. Exp. Forces, France.
- ROBY, HARRISON GEORGE. Civ. Engr., U. S. N. R. F. (rank of Lieut., Senior Grade); Public Works Officer, Quantico Marine Barracks, Quantico, Va.
- ROCKHOLD, JOHN ELLSWORTH. 1st Lieut., Co. E, 117th Engrs., Am. Exp. Forces, France; Address, 1430 Burchett St., Glendale, Cal.
- ROOT, JOSEPH EUGENE. Sewerage Engr., Div. of Sewerage, Dept. of Public Service, Delaware Bldg., Akron, Ohio.
- ROSEDALE, JOSEPH JACOB. Constr. Engr., Dept. of Safety, Industrial Accident Comm. of the State of California, Room 205, Underwood Bldg., San Francisco, Cal.
- ROSSELL, PAUL FRANCIS. Capt., Engr. R. C.; Adjt., 2d Bn., 23d Engrs., Am. Exp. Forces, France.
- ROWE, WILFRED LINCOLN. Care, Y. M. C. A., Beloit, Wis.

ASSOCIATE MEMBERS (*Continued*)

- RUNYON, WILLIAM KERPER. 1204 Massachusetts Ave., Washington, D. C.
- RUSSELL, CLAUD. Superv. Engr., Bureau of Public Works, Philippine Govt., Manila, Philippine Islands.
- RUTH, EDGAR KINGSBURY. Capt., Co. 5 A, E. R. O. T. C., Camp Lee, Va.; Asst. Prof. of Civ. Eng., Univ. of Cincinnati, Cincinnati, Ohio.
- SACKETT, ARTHUR JOHNSON. 47 Legare St., Charleston, S. C.
- SACKS, SAMUEL ISAAH. Officers' Material Corps, U. S. N. R. F., 3219 Fontaine St., Philadelphia, Pa.
- SALISBURY, ALFRED JAMES, JR. 1st Lieut. A. S. P., N. A., Aero Squadron No. 498, Langley Field, Hampton, Va.
- SALLE, GEORGE VIAL. Supt., The Foundation Co., 2503 Stuart Ave., Richmond, Va.
- SARGENT, EDWARD HAYNES. Capt., Engr. R. C., 116th Engrs., Am. Exp. Forces, France; Address, 25 Delaware Terrace, Albany, N. Y.
- SARTZ, JACOB PETER. 124 West 8th St., Bayonne, N. J.
- SAWHNEY, ASA NAND. Engr., Mirpur, *via* Jhelum, Punjab, India.
- SCHARFF, MAURICE ROOS. 1st Lieut., Engr. R. C., Office, D. C. and F., S. O. U., S. O. S., Am. Exp. Forces, France; Address, 1200 Jones Bldg., Pittsburgh, Pa.
- SCHARSCHMIDT, SAMUEL HOWARD. 692 East 126th St., Cleveland, Ohio.
- SCHOLTZ, HERMAN FRED. Capt., Engr. R. C., E. O. T. C., Co. 1-B, Camp Lee, Va.; Address, 1430 Cherokee Rd., Louisville, Ky.
- SCHROEDER, FRANK CHARLES. Asst. Mgr., Milwaukee Concrete Mixer Co., 955 Thirtieth St., Milwaukee, Wis.
- SCHUCHART, PAUL AUGUST. 376 Adelphi St., Brooklyn, N. Y.
- SCHULTZ, HAROLD AUGUST HASTRUP. 107 Worth Ave., Birmingham, Mich.
- SCHWARTZ, LLOYD. Acting Master Gunner, Headquarters Co., 72d Artillery Regt., Fort Williams, Me.; Address, 138 Fox St., Aurora, Ill.
- SCUDDER, HENRY DARCY, JR. 2d Lieut., U. S. G. N. A., Fort Niagara, N. Y. (Res., 307 Fifth Ave., Belmar, N. J.)
- SEGURA, VALERIANO. Capt., Eng. C., N. G. P. I.; Dist. Engr., Tacloban, Leyte, Philippine Islands.
- SESSLER, GROVER CLEVELAND. Asst. Civ. Engr., U. S. N. R. F., 3638 North 19th St., Philadelphia, Pa.
- SEYBOLT, GEORGE HUDSON. Supt. in Chg. of Ship Fabrication, Downey Shipbuilding Corporation, 110 Springfield Ave., West New Brighton, N. Y.
- SEYMOUR, HORATIO. 1st Lieut., Ord. R. C., Constr. Div., Washington, D. C.; Address, Alger Court, Bronxville, N. Y.
- SHEARER, DAVID McDUGALD. Capt., Engr. R. C., 604th Engrs., Camp Glen Burnie, Md.; Address, P. O. Box 132, Vicksburg, Miss.
- SHEPARD, GEORGE MILSON. Capt., Co. D, 3d Engrs., Schofield Barracks, Honolulu, Hawaii.
- SHERIDAN, LAWRENCE VINNEDGE. Sergeant, F. A., Saumur Artillery School, U. S. A. P. O. 718, Am. Exp. Forces, France; Address, 409 South Clay St., Frankfort, Ind.

## ASSOCIATE MEMBERS (Continued)

- SILLER, ALFRED V. With Bureau of Constr. and Repair, U. S. N., 480 Lexington Ave. (Res., 501 West 121st St.), New York City.
- SIMPSON, BURR HENRY. With Portland Cement Assoc., 1805 East 81st St., Cleveland, Ohio.
- SLOANE, FRED MATHEWS. Valuation Field Engr., C. M. & St. P. Ry., Room 22, Milwaukee Station, Minneapolis, Minn.
- SMALL, JAMES HAMPDEN, JR. Maj., Q. M. C., N. A.; Const. Q. M., Richmond Bag Loading Plant, Richmond, Va.
- SMITH, ALEXANDER CRAWFORD, JR. 1st Lieut., Engr. R. C., Truck Co. No. 10, 23d Engrs., Am. Exp. Forces, France; Address, 1009 North Calvert St., Baltimore, Md.
- SMITH, CHESTER KITCH. Capt., Engrs. N. A., Care, Director of Constr. and Forestry, Headquarters, S. O. S., Am. Exp. Forces, France.
- SMITH, CLAIBORNE ELLIS. 4048 Swift Ave., East San Diego, Cal.
- SMITH, FRANCIS MARSHALL. Capt., Engr. R. C., Headquarters, 59th Engrs. (Ry.), U. S. A. P. O. 708, Am. Exp. Forces, France; Address, Care, Morgan, Harjes & Co., 31 Boulevard Haussmann, Paris, France.
- SMITH, HERBERT YATES. Vice-Pres., The Kern-Hunter Co., Inc., 208 Wells St., Milwaukee, Wis.
- SMITH, JONATHAN RHODES. Engr. of Structures, Plant Eng. Dept., Bethlehem Shipbuilding Corporation, Ltd., Bethlehem, Pa.
- SMITH, LEROY CLARKE. Engr. Mgr., Board of County Road Comms., 220 County Bldg., Detroit, Mich.
- SMITH, MAXWELL WAIDE. Capt., Engr. R. C., Co. F, 308th Engrs., Am. Exp. Forces, France.
- SMITH, WALTER GROVER. Div. Engr., Ohio State Highway Dept., 48 East Como Ave., Columbus, Ohio.
- SOLA, FRANCISCO JOSE DE. O'Reilly 11, Havana, Cuba.
- SORENSEN, JULIUS JENNIS. 412 Camp St., New Orleans, La.
- SOUTHWORTH, JAY LA DREW. Care, Miami Conservancy Dist., Englewood, Ohio.
- SPRAGUE, HUGH MAX. 1st Lieut., Engr. R. C., Care, G. P. A., Labor Bureau, Am. P. O. 702, Am. Exp. Forces, France (Res., 1600 Fourth Ave., North, Great Falls, Mont.)
- STABELL, FREDERICK PHILIP. Engr., The Austin Co., Care, Y. M. C. A., 3210 Arthington St., Cor. Kedzie Ave., Chicago, Ill.
- STALNAKER, RUSSELL HOWARD. Care, California Highway Comm., Sacramento, Cal.
- STEARNS, RALPH HAMILTON. Lieut. (Junior Grade), U. S. N. R. F., Bureau of Yards and Docks, Navy Dept., Washington, D. C.
- STEEP, JAMES BIGELOW. Capt., Engr. R. C.; Superv. of Production and Inspection, Gen. Engr. Depot, Cleveland Dist., 826 Illuminating Bldg., Cleveland, Ohio.
- STEEN, JOHN BERNARD. Asst. to Cons. Engr., Emergency Fleet Corporation, U. S. Shipping Board, 136 South 16th St., Philadelphia, Pa.



ASSOCIATE MEMBERS (*Continued*)

- STEPHENS, GEORGE HIPPLESLEY STANLEY. Care, Irrig. Dept., Union Bldg., Pretoria, Transvaal, South Africa.
- STEVENS, LEIGH E. Care, Mineral Point Zinc Co., Depue, Ill.
- STEVENS, ROE LOOMIS. Office Engr., C. M. & St. P. Ry., Ry. Exchange, Chicago (Res., 2318 Hartney Ave., Evanston), Ill.
- STEVENSON, ERVIN BEECHER. Deputy City Engr., 376 Western Ave., Albany, N. Y.
- STEWART, SPENCER JAMES. 66 Broadway, New York City.
- STILLWELL, HOWARD LOGAN. 2d Lieut., Q. M. C., N. A.; Camp Q. M., Utility Branch, Camp Gordon, Atlanta, Ga.
- STILSON, CHARLES EDWARD. 1151 West Warren Ave., Detroit, Mich.
- STINE, WALTER PEARCE. Care, Gulf Pipe Line Co., Box 1791, Houston, Tex.
- STOCK, HARRY. Prin. Asst. Engr., Emergency Fleet Corporation, Box 345, Jacksonville, Fla.
- STRATE, THOMAS HENRY. Valuation Engr., C. M. & St. P. Ry., Chicago, Ill.
- STRAWN, THOMAS CORWIN. Supt., Westinghouse, Church, Kerr & Co., P. O. Box 442, Fort Worth, Tex.
- STRECKER, ROBERT AUGUST. Capt., Engr. R. C., Co. A, 309th Engrs., N. A., Camp Sherman, Chillicothe, Ohio.
- STREHAN, GEORGE ERNEST. 2d Lieut., Battery E, 351st F. A., Camp Meade, Md. (Res., 826 Second Ave., New York City.)
- STUART, EDWARD. 106 Strathcona Hall, Charles River Rd., Cambridge, Mass.
- STURGEON, GEORGE BLAIR. Cons. Engr., First National Bank Bldg., San Francisco, Cal.
- SUTER, RUSSELL. Capt., Engr. R. C., Care, S. E. O., Int. Sec., S. O. S., Am. Exp. Forces, France.
- SWAREN, JOHN WILLIAM. Capt., Engr. R. C., Headquarters 318th Engrs. (Sappers), A. P. O. 713, Am. Exp. Forces, France.
- SWETT, EVERETT HAROLD. Capt., Engr. R. C., Camp Lee, Petersburg, Va.
- SYMONDS, GEORGE ROSCOE BLAINE. Capt., Engr. R. C., Co. A, 605th Engrs., Camp Forrest, Ga.
- TANDROW, WALTER STEPHEN. 714 Wells Fargo Bldg., San Francisco, Cal.
- TARB, CHARLES WINTHROP. Vice-Pres. and Gen. Mgr., Morris Knowles, Ltd., Windsor, Ont., Canada (Res., The Elms, 110 Henry St., Detroit, Mich.)
- TATUM, ROBERT LEE. 1003 Burlington Bldg., Chicago, Ill.
- THACKWELL, HENRY LAWRENCE. 1345 Franklin St., Denver, Colo.
- THOMAS, CHARLES DURA. Capt., Engr. R. C., Co. B, 507th Engrs., Am. Exp. Forces, France; Address, R. F. D. 54, Lakeside Ave., Marlborough, Mass.
- THOMAS, WILLIAM EDWARD. Capt., San. C., N. A., Headquarters, Camp A. A. Humphreys, Va.

ASSOCIATE MEMBERS (*Continued*)

- THOMSEN, SAMUEL LOCKE. Capt., Engr. R. C., Co. A, 57th Engrs., Camp Laurel, Md. (Res., Gilman Apartment D 1, Calvert and 31st Sts., Baltimore, Md.)
- THOMSON, LESSLIE RIELLE. Secy., Research Council, Ottawa, Ont., Canada.
- TODD, CLARENCE LIONEL. Contr. Engr., Pittsburgh-Des Moines Steel Co., 959 Munsey Bldg., Washington, D. C.
- TONER, ARTHUR CARLING. Box 793, Wilmington, N. C.
- TOWLE, FOSTER. Asst. Engr., U. S. Reclamation Service, Newell, S. Dak.
- TOWLE, FREEMAN EUGENE. Asst. Engr., State Highway Dept., Bradford, N. Y.
- TOWNSEND, FRANK THORN. 2 Pinehurst Ave., New York City.
- TRACY, HERBERT HERMAN. 1st Lieut., Engr. R. C., Engr. Wagon Co. 4, 23d U. S. Engrs., U. S. A. P. O. 708, Am. Exp. Forces, France.
- TURLEY, OMNER JAY. Capt., Engr. R. C., Care, Engr. Purchasing Officer, P. O. No. 702, Am. Exp. Forces, France; Cons. Engr., Santa Fé, N. Mex.
- TURNER, AUGUSTUS MIESSE. Dist. Engr., in Chg. of Track Elev. C., C. & St. L. Ry., 408 Majestic Bldg., Indianapolis, Ind.
- TYRRELL, WARREN AYRES. Care, Charles K. Swartz, Windsor Park, Baltimore, Md.
- TYSON, WILLIAM CLAUDE. Capt., Engr. R. C., Co. No. 2, Camp Custer Replacement Draft, Am. Exp. Forces, France.
- VAN AMBURGH, THOMAS ALBERT. 706 Scott St., Alexandria, La.
- VAN AUKEN, CLAUDE LINN. Associate Editor, *Railway Review*, 1407 Ellsworth Bldg., Chicago (Res., 154 Columbia Ave., Elmhurst), Ill.
- VANDERVOORT, BENJAMIN FRANKLIN. Capt., Engr. R. C.; Asst. Const. Q. M., Chemical Plant No. 4, Saltville, Va.
- VAN WAGENEN, JAMES HUBERT. Engr., International (Canadian) Boundary Commissions, 719 Fifteenth St., N. W., Room 310, Washington, D. C.
- WALL, GEORGE ALBERT. Care, Hercules Powder Co., Hercules, Cal.
- WALLACE, DAVID ALEXANDER. Capt., Engr. R. C., Headquarters, Director General of Transportation, A. P. O. 717, Am. Exp. Forces, France.
- WALSH, PHILIP JOSEPH. Engr. and Gen. Supt., Road Constr., Kanawha County; Div. Engr., State Road Comm., County Court House, Charleston-Kanawha, W. Va.
- WALTON, HARRISON BILLINGSLEY. Capt., Engr. R. C., 312th Engrs.; Address, Care, T. P. Walton, Archer, Fla.
- WARD, LYMAN WISE. Capt., C. A. R. C.; Adj., 1st Bn., 63d Artillery, C. A. C., Camp Mills, N. Y.; Address, Care, Mrs. Ward, Cook, Wash.
- WARD, ROY ELSÉN. 16112 Euclid Ave., Cleveland, Ohio.
- WARING, CHARLES THOMAS. Maj., Sig. C., Fort Wayne, Mich.
- WARNOCK, WILLIAM HAROLD. Capt., Q. M. C., N. A., Care, Const. Q. M., Camp Stuart, Newport News, Va.

ASSOCIATE MEMBERS (*Continued*)

- WARREN, LEE GILBERT. Chf. Engr., Wm. J. O'Brien Const. Co., Madison, Tenn.
- WATERMAN, EARLE LYTTON. 489 Main St., Burlington, Vt.
- WEBB, WILLIAM TIBBITTS. 33 Cushing St., Providence, R. I.
- WEEKS, HARRY ARTHUR. Asst. Engr., New York State Conservation Comm., 182 Morton Ave., Albany, N. Y.
- WEINER, PETER. Care, S. Zipkin, Ellington, Conn.
- WHEELER, ROBERT CLARK. Gen. Mgr., New Chester Water Co., Suite 594, Drexel Bldg., Philadelphia, Pa.
- WHITBECK, LEE FIELD. Chf. Engr., International Rys., Guatemala, Guatemala.
- WHITMAN, NATHAN DAVIS. Mgr. and Engr., Reinforced Concrete Pipe Co., 1508 East 68th St., Chicago, Ill.
- WICKHAM, HARRY ROGERS. Asst. Engr., Westinghouse, Church, Kerr & Co., 37 Wall St., New York City (Res., 286 St. Johns Pl., Brooklyn, N. Y.)
- WIGLEY, CHESTER GREENALGH. Care, Wallace & Tiernan, 137 Center St., New York City.
- WILLIAMS, CLEMENT CLARENCE. Superv. Engr., U. S. Govt. Explosives Plant, Nitro, W. Va.
- WILLIAMS, JACOB PAUL JONES. Asst. to Vice-Pres., McGraw-Hill Co., Inc., 10th Ave. at 36th St., New York City.
- WILLIAMSON, HARRY. Capt., R. E., O. C., 272d Ry. Constr. Co., R. E., Egyptian Exp. Force, Egypt; Address, Care, A. P. Martindale, 11 Cornwall Ave., Church End, Finchley, London, N. 3, England.
- WILSON, EDBERT CARSON. Capt., Engr. R. C., Co. L, 2d Engr. Training Reg., Camp A. A. Humphreys, Va.; Address, 8 Gilman St., Waterville, Me.
- WINDROW, ROLLEN JOE. Member, State Board of Water Engrs., City Hall, Waco, Tex.
- WINN, WALTER SCOTT. Maj., Engr. R. C., Care, U. S. Engr. Office, Florence, Ala.
- WOLF, ALBERT MATTHIAS. Prin. Asst. Engr., Condrion Co., 1432 Monadnock Blk., Chicago (Res., 902 Eighteenth Ave., Melrose Park), Ill.
- WOOD, DANA MELVIN. Care, U. S. Shipping Board, Emergency Fleet Corporation, 148 State St., Boston (Res., 22 Myrtle St., Belmont), Mass.
- WRIGHT, FRANCIS HERBERT. Care, Turner Constr. Co., 3d Ave. and 31st St., Brooklyn, N. Y.
- WRIGHT, RENE BARBER. Asst. Engr., Bureau of Highways and Bridges (Res., 1415 Milwaukee St.), Portland, Ore.
- YEO, WILLIAM ALBERT. Care, P. Rosenberger, 546 Park Ave., Weehawken Heights, N. J.
- YEO, WILLIAM HERBERT WATT. Capt., Engr. R. C., Co. L, 5th Engrs. Tr. Reg., Camp A. A. Humphreys, Va.; Address, Las Cruces, N. Mex.

ASSOCIATE MEMBERS (*Continued*)

- YOST, HOWARD McCLYMONDS. Capt., Engr. R. C., Gen. Engr. Depot, U. S. A., 1438 You St., N. W., Washington, D. C.  
YOUNG, FREDERICK CHARLES. Capt., Engr. R. C.; Adj., 114th Engrs., Camp Beauregard, La.; Address, Care, G. N. Young, Woodbine, Iowa.  
YOUNG, OLIVER EARLE. Canal Point, *via* West Palm Beach, Fla.

## ASSOCIATES

- BELZNER, THEODORE. Insp. of Steel, Queensboro Bridge, Dept. of Plant and Structures, 345 East 59th St. (Res., 574 West 176th St.), New York City.  
BROWN, JOSEPH HENRY, JR. Asst. Mgr., Sullivan Machinery Co., Room 413, Peoples Gas Bldg., Chicago, Ill.  
CONNOR, EDWARD JAMES. Care, John Monks & Sons, Bristol, Pa.  
JORDAN, HARRY EDWARD. Capt., Q. M. C., Q. M. Dept., Constr. Div., Maintenance and Repair Branch, 7th and B Sts., S. W., Washington, D. C.  
PLATH, EDWARD ALFRED. Supt., Lakeland Phosphate Co., Lakeland, Fla.  
WILSON, HUGH MONROE. Stockbridge, Mass.

## JUNIORS

- ALEXANDER, EDWARD PORTER. 1st Lieut., Engr. R. C., 509th Engrs., A. P. O. No. 701, Am. Exp. Forces, France.  
ANDERSON, ROBERT SUMTER. 201 Fontanell Apartments, 5th and Denver Sts., Tulsa, Okla.  
ANDERSON, WALTER SEIGFRED. Cadet, Squadron 55, School of Military Aeronautics, Ohio State Univ., Columbus, Ohio.  
ANGWIN, HENRY RAYMOND. Bridge Engr., U. S. Office of Public Roads, 702 Willard Bldg., Washington, D. C.  
AUSTIN, HERBERT ASHFORD ROBERTSON. 1st Lieut., Engr. R. C., Co. 1-B, E. O. T. C., Camp Lee, Petersburg, Va.  
BERDEAU, RAY WILLIAM. Capt., Engr. R. C., Co. F, 5th Training Regt., Camp A. A. Humphreys, Va.  
BISHOP, ROY PRENTICE. 2d Lieut., Engr. R. C., 35th Engrs., A. P. O. 735, Am. Exp. Forces, France.  
BLY, EDWIN PRESCOTT. Engr., Standard Oil Co., 226 Union Ave., Fullerton, Cal.  
BOWEN, EDWARD WITHERS. Capt., Inf. R. C., 2d Inf. Replacement Regt., Camp Gordon, Ga.  
BREYMAN, JOHN BERNARD, JR. 2d Lieut., C. A. R. C., 22d Co., Puget Sound, Fort Whitman, Wash.  
BRINGHURST, HORACE MORTON. With Julian Kennedy, Norris Apartments, Norristown, Pa.  
BURGER, ALFRED ANDREW. 2d Lieut., N. A., 19th Co., 2d Inf. Replacement Regt., Camp Gordon, Ga.; Address, Doylestown, Ohio.  
CHANDLER, EMERSON LAWRENCE. Care, The Miami Conservancy Dist., Dayton, Ohio.  
CHERRY, ALAN GORDON. 1st Lieut., N. A., 301st Engrs.; Address, 10 Arch St., Providence, R. I.

JUNIORS (*Continued*)

- CHILD, JOHN TOWNSHEND. 2d Lieut., San. C., N. A., San. Corps Detachment, Camp Meade, Md.
- CLECKNER, FREDERICK MARTIN. Private, Meteorological Section, Sig. C., Texas Agricultural and Mech. Coll., College Station, Tex.
- COLLINS, MERTON CLYDE. 1st Lieut., Engr. R. C., Camp Lee, Petersburg, Va.
- CONNELLY, WALTER LOUIS. Master Engr. (Senior Grade), Headquarters Detachment, 310th Engrs., Camp Mills, N. Y.; Address, 330 Simoneau St., Saginaw, Mich.
- CONNOLLY, THOMAS ERNEST. Gen. Supt. on Constr., Hetch Hetchy Ry., Ukiah, Cal.
- COPELAND, ROBERT MORRIS. 2d Lieut., Engr. R. C.; Instr., 111th Engrs., Camp Bowie, Tex. (Res., 1065 York St., Denver, Colo.)
- DARLING, CLINTON STOWELL. 1st Lieut., 108th Engrs., Am. Exp. Forces, France; Address, Box 144, South Vernon, Mass.
- DAVIDSON, GEORGE BURRETT. 2d Lieut., Engr. R. C.; 1029 Washington St., Suffolk, Va.
- DAVIS, HAROLD MARTIN. Care, Nashua Gummed & Coated Paper Co., Franklin St., Nashua, N. H.
- DE MOSS, SAMUEL. Private, School of Meteorology, Sig. C., Agricultural and Mech. Coll., College Station, Tex.; Address, 1750 West 59th St., Seattle, Wash.
- DOW, EDWIN ARTHUR. Care, Southern Power Co., Charlotte, N. C.
- DRAKE, RALPH EDMUND. 645 Wunderlich Ave., Barberton, Ohio.
- DUNCAN, MALCOLM. Engr., Wm. H. Dechant & Sons, Baer Bldg. (Res., 336 North 5th St.), Reading, Pa.
- FEINER, MARK ANTONY. Meteorological Section, Agricultural and Mech. Coll., College Station, Tex.; Address, 335 West 44th St., New York City.
- FISHER, GEORGE JOSEPH. 2d Co., 4th E. R. O. T. C., Camp Lee, Va.
- FOGERTY, MERTON SHUMWAY. 34th Prov. Squadron, Aviation Camp Waco, Tex.; Address, 5 High Ridge Rd., Worcester, Mass.
- FORBES, JAMES HYDE. 1638 Fourth Ave., Los Angeles, Cal.
- FULEIHAN, NASRI SOLOMON. B. J. 108, Boulevard Ismail, Heliopolis, Egypt.
- GAULT, JOHN JAMES. Asst. Engr., C. & A. R. R., Northern Div., Bloomington, Ill.
- GODFREY, ALEXANDER HOLLIS. Asst. Paymaster, U. S. N. R. F., 1901 Wyoming Ave., N. W., Washington, D. C.
- GRAFF, GEORGE WASHINGTON. 40th Co., 10th Training Bn., 155th Depot Brigade, Camp Lee, Va.
- GREEN, NATHANIEL WARREN. Care, Key West Extension, F. E. C. Ry., P. O. Box 535, Key West, Fla.
- GRIGSBY, WALTER BERTON. 1st Lieut., Engr. R. C., 9th Engrs. (Mounted) Camp Courchesne, El Paso, Tex.; Address, 445 Irving St., N. W., Washington, D. C.
- GUNTHER, HERMAN DIETRICH. Co. B, 147th Inf., Camp Lee, Va.; Asst. Engr. and Supt., J. F. Shanly Co., P. O. Box 423, Dover, N. J.

JUNIORS (*Continued*)

- GUPTILL, JOSEPH RICKER. Private, Co. E, 23d Engrs., Am. Exp. Forces, France; Address, 451 Twenty-eighth St., Oakland, Cal.
- HALLBERG, ARTHUR SIDNEY. Lieut., U. S. N. R. F., U. S. S. *Quinnebaug*, Care, Postmaster, New York City.
- HANCOCK, JOHN SEALE. Valuation Dept., N. Y. C. R. R., Crown Bldg., Cleveland, Ohio.
- HARDAWAY, BENJAMIN HURT, JR. Maj., N. A., Camp Gordon, Ga.; Supt., Hardaway Contr. Co., Columbus, Ga.
- HARDING, EDWARD CRITTENDEN, JR. Care, Miami Conservancy Dist., Eng. Dept., Dayton, Ohio.
- HEFFELFINGER, JOHN MILTON, JR. Engr., Illinois State Water Survey, 622 Hecla St., Ironton, Ohio.
- HOGG, WILLIAM THOMAS. U. S. Public Health Service, Millington, Tenn.
- HOLBORN, LEWIS ADAMS. Lieut., 22d Engrs., Fort Benjamin Harrison, Ind.
- HOLDEN, WILLIAM. Secy., Commercial Club of Sioux City, Commercial Club, Sioux City, Iowa.
- HORWEGE, ALVIN ARTHUR. Engr., Concrete Ship Dept., U. S. Shipping Board, Emergency Fleet Corporation, 2529 Noble Ave., Alameda, Cal.
- JAENICKE, WILLIAM HUGO. 2d Lieut., Engrs. N. A., E. R. O. T. C., Camp Lee, Va.
- JESSUP, WALTER EDGAR. 1st Lieut., Engr. R. C., Co. C, 39th Engrs., Camp Upton, N. Y.
- JONES, HARRY EDWARD. Private, A. S., Sig. C., Meteorological Section, Agricultural and Mech. Coll., College Station, Tex. (Res., 244 Cook St., Waterbury, Conn.)
- JOSEPH, JACOB. Private, Meteorological Section, Sig. C., U. S. A., College Station, Tex.
- KANE, DANIEL COUGHLIN. 1st Lieut., Engrs. N. A., 466th Ponton Train, Washington Barracks, Washington, D. C. (Res., 469 Forty-seventh St., Brooklyn, N. Y.)
- LARKIN, CHARLES RAYMOND. Asst. Engr., Bureau of Health, Room 716, City Hall, Philadelphia, Pa.
- LATIMER, CLAUDE ALFRED. 2d Lieut., Engr. R. C., Co. E, 3d Engrs., Corozal, Canal Zone, Panama.
- LISMAN, OLIVER CROMWELL. 1st Lieut., 519th Engrs., Camp Devens, Ayer, Mass.
- LOCKHARDT, WILLIAM FRANCIS. 2d Lieut., Q. M. C., N. A., Army Supply Base, 58th St., Brooklyn, N. Y.
- LOGAN, VERNON LEMLEY. 2d Lieut., N. A., 530th Engrs., Camp Funston (Res., Arlington), Kans.
- MANNING, WILLIAM JAMES HENRY. 2d Lieut., Engr. R. C., 52d Engrs., Am. Exp. Forces, France (Res., 762 Madison Ave., Albany, N. Y.)
- MARX, RAYMOND. 2d Lieut., Co. K, 308th Inf., Am. Exp. Forces, France; Address, 645 West End Ave., New York City.
- MASLEN, HAROLD CARPENDALE. Ensign, U. S. N. R. F.; Public Works Officer, U. S. Navy Yard, Charleston, S. C.



JUNIORS (*Continued*)

- MASSEY, WALTER F. Private, Co. 15, Recruit Bn., 5th Engr. Tr. Regt., Camp Humphreys, Va.; Address, 94 Bank St., New York City.
- MATTHEW, RAYMOND. 167 King St., Apartment 52, Portland, Ore.
- MELIN, OSCAR WILLIAM. Care, Chf. Engr., B. & O. R. R., Cincinnati, Ohio.
- MORGAN, JOSEPH HOLLOWAY. Hyattsville, Md.
- OATMAN, FRANKLYN WILLIAM. 2647 Regent St., Berkeley, Cal.
- O'DONNELL, JOHN ROBERT. Insp., Ord. Dept., Div. T, The Virginia Hotel, Chicago, Ill.
- ORBECK, MARTIN J. 1st Lieut., Engr. R. C.; Bn. Adj., 528th Engrs. Service Bn., Camp Dodge, Iowa.
- OSTROM, CHARLES DOUGLAS YELVERTON. Capt., C. A. C., U. S. A., Headquarters, 64th Artillery, Am. Exp. Forces, France; Address, Care, Mrs. Charles D. Y. Ostrom, 3024 Clay St., San Francisco, Cal.
- PALMER, HERBERT MARTIN. Mass. Inst. Tech. Dormitory, Ames St. and Charles River Rd., Cambridge, Mass.
- PARKER, JAMES. 1st Lieut., 13th Cav., U. S. A., Fort Ringgold, Tex.; Address, 1102 South Carson St., Tulsa, Okla.
- PARTRIDGE, JOHN FREDRICK. Lieut., Engr. R. C., Co. I, 23d Engrs., Am. Exp. Forces, France; Address, 247 Harrison Ave., Sausalito, Cal.
- PERKINS, ROSCOE, JR. Candidate, Field Artillery Central Officers' Training School, Camp Zachary Taylor, Louisville, Ky.
- PERRY, ARTHUR FRANKLIN, JR. 2d Lieut., Battery B, 64th Artillery, C. A. C., Fort Dade, Fla.
- PIERCE, CHARLES WILLIAM. Civ. Engr., U. S. N., U. S. S. *Nebraska*, Care, General Postmaster, New York City; Address, 1122 West 8th St., Los Angeles, Cal.
- PRACK, ARTHUR EDWARD. 808 Lumsden Bldg., Toronto, Ont., Canada.
- PRICHETT, FREDERIC BORRADAILE. Lieut., 109th Field Artillery, Headquarters Co., 28th Div., Am. Exp. Forces, France; Address, 4909 Monument Rd., North Wynnefield, Philadelphia, Pa.
- PUNG, WILLIAM SING-CHONG. 2d Lieut., Engrs. N. A., Camp Lee, Va.
- RADER, JAMES WILSON. 2d Lieut., A. S. Sig. R. C., Headquarters, Cadet Wing, Flying Dept., Kelly Field No. 2, San Antonio, Tex.; Address, Lewisburg, W. Va.
- REEVES, GLENN STANTON. Co. G, 23d Engrs., U. S. A. P. O. 716, Am. Exp. Forces, France.
- REILLY, CHARLES GILBERT. Lieut., Co. D, 313th Inf., Am. Exp. Forces, France.
- REYNOLDS, RALPH WHITNEY. 1st Lieut., Engr. R. C., 37th Engrs., Fort Myer, Va.; Address, 270 South Harvard Boulevard, Los Angeles, Cal.
- RICHARDS, GEORGE WILLIAM. Erving, Mass.
- RITOW, HERMAN. 302d Engrs., Co. B, Am. Exp. Forces, France.
- ROGERS, LESTER CUSHING. 333d F. A., Camp Grant, Ill.

JUNIORS (*Continued*)

- RYLAND, REIS JOSEPH. 2d Lieut., Sig. C., U. S. A., 323d Field Sig. Bn., Camp Morse, Leon Springs, Tex.; Care, San José Water-Works, 374 West Santa Clara St., San José, Cal.
- ST. JOHN, ROYAL UPSON. 2d Lieut., Sig. R. C., A. S.; Information Officer, 95th Aero Squadron, Am. Exp. Forces, France (Res., R. R. No. 1, Redwood City, Cal.)
- SCUDDER, CHARLES MORRISON. Capt., Co. E, 107th Engrs., Am. Exp. Forces, France.
- SEARIGHT, GEORGE PETER. 1st Lieut., Engr. R. C., Co. B, 27th Engrs., Am. Exp. Forces, France (Res., 3 East Louther St., Carlisle, Pa.)
- SEELYE, SETH HENESS. Co. G, 23d Engrs., Am. Exp. Forces, France.
- SEXTON, GEORGE FRANCIS. Sergeant, 1st Class; Engr. Superv., Camp Q. M.'s Office, Camp Jackson, Columbia, S. C.
- SMITH, RICHARD BENNETT. Meteorological Section, A. S. Sig. C., Agricultural and Mech. Coll. of Texas, College Station, Tex.
- SPENCER, CHARLES BURR. Lieut., Care, Chf. Ord. Officer, P. O. 717, Am. Exp. Forces, France (Res., 1124 Tinton Ave., New York City.)
- STALLINGS, JOHN ROBERT. Sergeant, Headquarters Co., 3d Anti-Aircraft Bn., Fort Morgan, Ala.
- TOMS, JAY WILLIAM. 4832 Meade St., Denver, Colo.
- VAN BUREN, MAURICE PELHAM. Capt., Corps of Engrs, U. S. A., 602d Engrs., Camp Devens, Mass. (Res., The Cedars, New Brighton, N. Y.)
- VON DEESTEN, ARTHUR PETER. Maj., Corps of Engrs., U. S. A., Camp A. A. Humphreys, Va.
- WARKLEY, JOHN CROSWELL. Asst. Engr., Ill. Cent. R. R., 7135 Blackstone Ave., Chicago, Ill.
- WAY, WILLIAM FLOYD. 2d Lieut., Co. D, 18th Engrs. (Ry.), U. S. Army P. O. 705, Am. Exp. Forces, France.
- WEBER, CHARLES MARIA. West's Lane, Stockton, Cal.
- WHITNEY, JOHN THAD. 2d Lieut., F. A. R. C., 2d Corps, Artillery Park, Camp Jackson, Columbia, S. C.
- WILLIAMS, ALAN FRANK. 2d Lieut., Co. B, 18th Engrs. (Ry.), U. S. Army P. O. No. 705, Am. Exp. Forces, France.
- WILLIAMSON, LEE HOOMES. 2d Lieut., Engr. R. C., Co. A, 55th Engrs., Camp Merritt, N. J.; Address, Univ. of Virginia, Charlottesville, Va.
- WONG, JICK GAM. Res. Engr., Sections 7 and 10, Hankow-Ichang Ry., Han-I Ry. Office, Tsaoshih, Hupeh, China.
- YEREANCE, ALEXANDER WOODWARD. 1st Lieut., Co. F, 305th Engrs., Am. Exp. Forces, France.

## REINSTATEMENTS

## MEMBERS

	Date of Reinstatement.
WATT, DAVID ALEXANDER.....	June 18, 1918

## ASSOCIATE MEMBERS

WILLS, ARTHUR JOHN.....	June 18, 1918
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## RESIGNATIONS

## JUNIORS

Date of  
Resignation.

IRWIN, WILLIAM CLARK..... April 16, 1918

## DEATHS

ALLEN, CALVIN HARLOW. Elected Member, September 7th, 1887; died July 13th, 1918.

ARMSTRONG, ROBERT STUART. Elected Associate Member, February 6th, 1907; died July 15th, 1918.

BUCKWALTER, HARRIS DANIEL. Elected Associate Member, May 31st, 1916; killed in action in France, May 12th, 1918.

CHAMBERS, HERBERT JAMES. Elected Associate Member, November 5th, 1902; Member, January 3d, 1911; died May 20th, 1918.

COBURN, HOWARD LINCOLN. Elected Member, March 5th, 1912; died June 19th, 1918.

GOODFELLOW, JAMES GORDON. Elected Junior, September 3d, 1913; Associate Member, October 9th, 1917; killed in action in France, March 23d, 1918.

HILL, WILLIAM RYAN. (*Director.*) Elected Member, July 1st, 1891; died June 16th, 1918.

LINDBERY, CHARLES ARTHUR. Elected Member, October 1st, 1913; date of death unknown.

McMATH, ROBERT EMMET. Elected Member, March 3d, 1880; date of death unknown.

MARBURG, EDGAR. Elected Member, October 6th, 1897; died June 27th, 1918.

MAYHEW, ALFRED BOARDMAN. Elected Associate Member, November 8th, 1909; Member, January 18th, 1916; died May 12th, 1918.

MORDECAI, AUGUSTUS. Elected Member, February 1st, 1893; died July 28th, 1918.

NEHER, CLARENCE RUFUS. Elected Member, June 4th, 1902; died May 12th, 1918.

ODELL, RUTLEDGE IRVING. Elected Associate, October 1st, 1895; died March 25th, 1918.

SACKETT, JOHN WARREN. Elected Member, May 2d, 1894; died July 3d, 1918.

SUTERMEISTER, ARNOLD HENRY. Elected Member, June 3d, 1902; died June 29th, 1918.

WAGNER, BERNARD MATTHEW. Elected Associate Member, May 3d, 1899; Member, December 1st, 1903; died June 8th, 1918.

WATERBURY, LESLIE ABRAM. Elected Associate, November 7th, 1906; Associate Member, June 30th, 1910; Member, September 3d, 1913; died June 15th, 1918.

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Total Membership of the Society, August 8th, 1918,  
8 830.

## MONTHLY LIST OF RECENT ENGINEERING ARTICLES OF INTEREST

(May 1st to July 20th, 1918)

NOTE.—This list is published for the purpose of placing before the members of this Society, the titles of current engineering articles, which can be referred to in any available engineering library, or can be procured by addressing the publication directly, the address and price being given wherever possible.

## LIST OF PUBLICATIONS

In the subjoined list of articles, references are given by the number prefixed to each journal in this list:

- |   |   |
|---|---|
| (2) <i>Journal</i> , Engrs. Club of Phila., Philadelphia, Pa.                               | (43) <i>Annales des Ponts et Chaussées</i> , Paris, France.                             |
| (3) <i>Journal</i> , Franklin Inst., Philadelphia, Pa., 50c.                                | (45) <i>Coal Age</i> , New York City, 10c.  |
| (4) <i>Journal</i> , Western Soc. of Engrs., Chicago, Ill., 50c.                            | (46) <i>Scientific American</i> , New York City, 15c.                                   |
| (5) <i>Transactions</i> , Engineering Institute of Canada, Montreal, Que., Canada.          | (47) <i>Mechanical Engineer</i> , Manchester, England, 3d.                              |
| (6) <i>Journal</i> , Am. Inst. of Archts., Washington, D. C., 50c.                          | (54) <i>Transactions</i> , Am. Soc. C. E., New York City, \$12.                         |
| (8) <i>Stevens Indicator</i> , Hoboken, N. J., 50c.   | (55) <i>Transactions</i> , Am. Soc. M. E., New York City, \$10.                         |
| (9) <i>Industrial Management</i> , New York City, 25c.                                      | (56) <i>Transactions</i> , Am. Inst. Min. Engrs., New York City, \$6.                   |
| (11) <i>Engineering</i> (London), W. H. Wiley, 432 Fourth Ave., New York City, 25c.         | (57) <i>Colliery Guardian</i> , London, England, 5d.                                    |
| (12) <i>The Engineer</i> (London), International News Co., New York City, 35c.              | (58) <i>Proceedings</i> , Engrs.' Soc. W. Pa., 2511 Oliver Bldg., Pittsburgh, Pa., 50c. |
| (13) <i>Engineering News-Record</i> , New York City, 15c.                                   | (59) <i>Proceedings</i> , American Water-Works Assoc., Troy, N. Y.                      |
| (15) <i>Railway Age</i> , New York City, 15c.   | (60) <i>Municipal and County Engineering</i> , Indianapolis, Ind., 25c.                 |
| (16) <i>Engineering and Mining Journal</i> , New York City, 15c.                            | (61) <i>Proceedings</i> , Western Railway Club, 225 Dearborn St., Chicago, Ill., 25c.   |
| (17) <i>Electric Railway Journal</i> , New York City, 10c.                                  | (62) <i>American Drop Forger</i> , Thaw Bldg., Pittsburgh, Pa., 10c.                    |
| (18) <i>Railway Review</i> , Chicago, Ill., 15c.  | (63) <i>Minutes of Proceedings</i> , Inst. C. E., London, England.                      |
| (19) <i>Scientific American Supplement</i> , New York City, 10c.                            | (64) <i>Power</i> , New York City, 5c.  |
| (20) <i>Iron Age</i> , New York City, 20c.  | (65) <i>Official Proceedings</i> , New York Railroad Club, Brooklyn, N. Y., 15c.        |
| (21) <i>Railway Engineer</i> , London, England, 1s. 2d.                                     | (66) <i>Gas Journal</i> , London, England, 6d.  |
| (22) <i>Iron and Coal Trades Review</i> , London, England, 6d.                              | (67) <i>Cement and Engineering News</i> , Chicago, Ill., 25c.                           |
| (24) <i>American Gas Engineering Journal</i> , New York City, 10c.                          | (71) <i>Journal</i> , Iron and Steel Inst., London, England.                            |
| (25) <i>Railway Mechanical Engineer</i> , New York City, 20c.                               | (71a) <i>Carnegie Scholarship Memoirs</i> , Iron and Steel Inst., London, England.      |
| (26) <i>Electrical Review</i> , London, England, 4d.  | (72) <i>American Machinist</i> , New York City, 15c.                                    |
| (27) <i>Electrical World</i> , New York City, 10c.  | (73) <i>Electrician</i> , London, England, 18c.   |
| (28) <i>Journal</i> , New England Water-Works Assoc., Boston, Mass., \$1.                   | (74) <i>Transactions</i> , Inst. of Min. and Metal., London, England.                   |
| (29) <i>Journal</i> , Royal Society of Arts, London, England, 6d.                           | (75) <i>Proceedings</i> , Inst. of Mech. Engrs., London, England.                       |
| (32) <i>Mémoires et Compte Rendu des Travaux</i> , Soc. Ing. Civ. de France, Paris, France. | (77) <i>Journal</i> , Inst. Elec. Engrs., London, England, 5s.                          |
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## LIST OF ARTICLES

## Bridges.

- Moving Loads on Railway Underbridges.\* William Beau Farr. (63) Vol. 202, 1916.  
 Pier-Foundations of the Wanganui Bridge, New Zealand.\* Robert West Holmes. (63) Vol. 202, 1916.  
 The Reconstruction of Koari Bridge, Great Indian Peninsula Railway.\* Thomas Christie Hooce. (63) Vol. 202, 1916.  
 Keadby Bridge.\* James Benjamin Ball. (63) Vol. 203, 1916.  
 Cost of Constructing Concrete Arch Bridge over Platte River in Nebraska. Geo. K. Leonard. (86) Feb. 27.  
 Methods of Maintaining and Repairing Old Highway Bridges.\* (86) Feb. 27.  
 The Design of a Three-Hinged Arch.\* P. H. Chen. (36) Mar.  
 Continuous Trusses of Silicon Steel Feature New Allegheny River Bridge.\* (13) May 2.  
 Modern Drawbridges Attain Great Weights and Spans. (13) May 2.  
 Esthetics in Bridge Design.\* J. A. L. Waddell. (18) May 18.  
 Tunnels vs. Bridges. (19) May 18.  
 Bridge Abutment has Pier Footings and Curved Wings.\* Jonathan Jones. (13) May 23.  
 Don River Bascul Bridge, Toronto.\* George T. Clark. (96) May 23.  
 The Principal Bridges of the World—a Comparison.\* (12) Serial beginning May 24.  
 Concrete Bridge at Grand Mere, Que.\* (117) June 1.  
 The Longest Possible Bridge Spans.\* Charles Evan Fowler. (46) June 1.  
 Concrete Viaduct at St. Louis has Simple Details.\* Charles W. Martin. (13) June 6.  
 Oregon-Washington Railway Separates Grades for Three Miles at Portland.\* (13) June 6.  
 Method and Cost of Filling in High Trestles on Southern Pacific Ry. W. E. Burns. (86) June 19.  
 Recent Reinforced Concrete Highway Bridge Work in Ontario.\* G. Graham Reid. (From an article in *The Contract Record*.) (86) June 28.  
 Foundations, Forms and Concrete Distribution Mark Bridge Construction.\* Edward W. Stearns. (13) July 11.  
 Calcul des Voutes en Béton Armé.\* L. Robert de la Mahotière. (33) Mar. 23.  
 Pont Basculant de 42 Mètres de Portée sur le Canal de Trollhättan (Suède).\* A. Goupil. (33) May 18.

## Electrical.

- The Mechanical Problem of Electric-Power Transmission-Line Conductors.\* Arthur Thomas Arnall. (63) Vol. 201, 1916.  
 Earths on Three-Phase Systems.\* George Gladman Braid. (63) Vol. 202, 1916.

\* Illustrated.

**Electrical—(Continued).**

- The Mechanical Working of Lead-Covered Underground Telephone Cables.\* Charles Frederick Street. (63) Vol. 202, 1916.
- The Electron Theory.\* William Albert Noyes. (3) Jan.
- Military Searchlights.\* Roger Haydock. (100) Mar.
- The Development of an Efficient Earthing System.\* J. P. Forster. (Paper read before Assoc. of Min. Elec. Engrs.) (22) Mar. 29.
- The Evolution of the Thermionic Valve.\* R. L. Smith-Rose. (77) Apr.
- Switchgear Standardization.\* Charles C. Garrard. (77) Apr.
- Electrical Inter-connection of the Aberdare and Rhymney Valley Collieries of the Powell Duffryn Steam Coal Company, Limited. (22) Apr. 5.
- Electric Winding Engines.\* John F. Perry. (Paper read before National Assoc. of Colliery Managers and Associates of Min. Elec. Engrs.) (73) Apr. 5.
- Elementary Principles of Continuous-Current Armature Winding.\* F. M. Denton. (73) Apr. 5.
- Current Limiting Reactances.\* (12) Apr. 12.
- Notes on the Extending of Colliery Three-Phase Electrical Power Plant. L. Fokes. (22) Apr. 12.
- Notes on the Maintenance of Turbo Alternators.\* L. Fokes. (57) Apr. 12.
- The Commutator Machine as the Standard Single-Phase Type.\* (Abstract of paper read before Assoc. of Supervising Electricians.) (73) Serial beginning Apr. 19.
- Performance of Polyphase Induction Motors.\* Justin Lebovich. (27) Apr. 27.
- Standardization of Overhead Construction.\* H. E. Wuiling. (27) Apr. 27.
- Current-Transformer Connections.\* W. R. Woodward. (64) Apr. 30.
- Electric Skip Hoists for Blast Furnaces.\* David L. Lindquist. (First part of paper read before Pittsburgh Section A. I. S. E. E.) (116) May.
- Lightning Arrester Spark Gaps.\* Chester T. Allcutt. (42) May.
- Pre-charged Condensers in Series and in Parallel.\* V. Karapetoff. (42) May.
- Standardized Occupations and Rates. W. D. Stearns. (9) May.
- Steel Industry Belt Drive Applications.\* Charles A. Hirschberg. (116) May.
- Sustained Short-Circuit Phenomena and Flux Distribution of Salient-Pole Alternators.\* N. S. Diamant. (42) May.
- Telaugraphs Expedite Steel Production.\* H. C. Snyder. (116) May.
- The Control of Large Amounts of Power.\* E. B. Wedmore. (77) May.
- Tubular Earths for Lightning Conductors.\* Killingsworth Hedges. (26) May 3.
- Installation and Care of Reactors.\* M. E. Skinner. (27) May 4.
- Six-Unit Station will Develop 165 000 Kw.\* (27) May 4.
- Special Transmission-Line Problem.\* (27) May 4.
- Central-Station Heating in Detroit.\* J. H. Walker. (64) May 7.
- Requirements, Operation and Maintenance of Colliery Power Station Switchboards.\* L. Fokes. (57) May 10.
- Determining of Load Centers of Circuits.\* Terrell Croft. (64) May 14.
- An Electrolytic Metering Can.\* (73) May 17.
- Electric Ship Propulsion by the Ljunström Turbine.\* (26) May 17.
- Flickering of Electric Lamps.\* K. Simons. (Abstract of article in *Elektro-technische Zeitschrift*.) (73) May 17.
- Some Notes on Loop Tests for Fault Localisation. G. W. Stubbins. (73) May 17.
- Industrial-Lighting Curtailment.\* C. E. Clewell. (72) May 23.
- A Note on the Relation of the Audibility Factor of a Shunted Telephone to the Antenna Circuit as Used in the Reception of Wireless Signals. Balthe Van Der Pol. (Abstract of article in *Philosophical Magazine*.) (73) May 24.
- Power Factor and Its Improvement. E. W. Dorey. (73) Serial beginning May 24.
- Rolling Mills and the Electric Drive. L. Rothera. (Abstract of paper read before Manchester Assoc. of Engrs.) (73) May 24.
- Some Practical Considerations on Electrical Engineering. Chris. Jones. (Abstract of paper read before South Wales Inst. of Engrs.) (57) May 31.
- Electricity as a Substitute for Natural Gas for Heating Purposes. Frank Thornton. (58) Apr.
- Aerial Cable Construction for Electric Power Transmission.\* E. B. Meyer. (42) June.
- Application of Theory and Practice to the Design of Transmission Line Insulators.\* G. I. Gilchrist. (42) June.
- Method of Symmetrical Co-Ordinates Applied to the Solution of Polyphase Networks.\* C. L. Fortescue. (42) June.
- Protection from Flashing for Direct Current Apparatus.\* J. J. Linebaugh and J. L. Burnham. (42) June.
- The Oxide Film Lightning Arrester.\* Charles P. Steinmetz. (42) June.
- The Oxide Film Lightning Arrester.\* Crosby Field. (42) June.
- New Turbine Plant at Hull.\* (22) June 7.
- Wave Velocity and Capacity of Horizontal Helices in Wireless Telegraphy and Transmission Line Protective Apparatus.\* A. Press. (73) June 7.

\* Illustrated.





**Electrical—(Continued).**

- Computing the Speed of Receiving a Telegraphic Message Through Submarine Cables.\* J. Rhymer-Jones. (26) June 14.  
 Concrete Poles are in the Process of Evolution.\* Charles Rufus Harte. (17) June 15.  
 Dipping and Baking Railway Motors Will Decrease Troubles.\* J. V. Dobson. (17) June 15.  
 Flywheel Equalizing Generator is Economical for Ore Dock.\* (117) June 15.  
 Selecting Lightning Arrester Types to Suit Requirements.\* Q. A. Brackett. (17) June 15.  
 Electric Power for Nitrogen Fixation. E. Kilburn Scott. (42) July.  
 Reactance of Synchronous Machines and its Applications. R. E. Doherty and O. E. Shirley. (42) July.  
 Split-Conductor Cable-Balanced Protection. W. H. Cole. (42) July.  
 The Design of Transpositions for Parallel Power and Telephone Circuits. Harold S. Osborne. (42) July.  
 Synchronous Motors in Rock Crushing Plants and Cement Mills.\* Will Brown. (117) July 1.  
 The Electrical Study Course—Armature Reaction.\* (64) July 2.  
 Changing from Isolated to Central Station Power.\* Frank Huskinson. (45) July 6.  
 Keeping Direct-Current Apparatus from Flashing.\* (17) July 6.  
 Power Station Earth Connections.\* P. H. Adams. (64) July 9.  
 A Large Electric Crane.\* H. T. Stuckey. (72) July 11.  
 L'Institut Electrotechnique et de Mécanique Appliquée de l'Université de Toulouse.\* C. Camichel and D. Eydoux. (33) Apr. 27.  
 Le Vieillessement des Isolateurs en Porcelaine.\* (33) May 18.

**Marine.**

- Buoyancy and Stability of Submarines.\* William Hovgaard. (90) Vol. 59.  
 Description of an Apparatus for Interpreting Stability for the Use of Shipmasters.\* Thomas Graham. (90) Vol. 59.  
 Further Experiments upon Wake and Thrust Deduction.\* W. J. Luke. (90) Vol. 59.  
 Marine Applications of Reduced Gears of Floating Frame Type.\* John H. Macalpine. (90) Vol. 59; (58) Feb.  
 On a Method of Obtaining for Ship Design the Spacing of Bulkheads According to the Rules of the International Convention.\* W. J. Lovett. (90) Vol. 59.  
 On Launching.\* Percy A. Hillhouse and William H. Riddlesworth. (90) Vol. 59.  
 Some Experiments on the Influence of Running Balance of Propellers on the Vibration of Ships.\* J. J. King-Salter. (90) Vol. 59.  
 Standardisation as Applied to the Machinery for Cargo Boats. D. B. Morison. (90) Vol. 59.  
 The Closing of Side Apertures in Ships from the Bridge.\* E. Benvenuti. (90) Vol. 59.  
 The Design of Pin Joints Based on Ultimate Strength.\* Walter A. Scoble. (90) Vol. 59.  
 An Analysis of the Principles of Industrial Management (Navy Yards). T. G. Roberts. (91) Vol. 25, 1917.  
 Application of Electricity to Various Auxiliaries on Shipboard. H. L. Hibbard. (91) Vol. 25, 1917.  
 Fabricated Ships. R. H. M. Robinson. (91) Vol. 25, 1917.  
 Power and Economy Test of the S. S. *Pontiac*. A. George Mattsson. (91) Vol. 25, 1917.  
 Recent Developments in Tank Steamer Construction. Robert W. Morrell. (91) Vol. 25, 1917.  
 Submarine Hulls. E. S. Land. (91) Vol. 25, 1917.  
 The Effect of Wind and Fouling Resistances on the U. S. S. *Neptune*. William W. Smith. (91) Vol. 25, 1917.  
 Gyro Ship Stabilizers in Service. Elmer A. Sperry. (91) Vol. 25, 1917.  
 Emergency Repairs to a Battleship. E. E. Wilson. (From United States Naval Institute *Proceedings*.) (11) Apr. 12.  
 Designing of Concrete Ships.\* L. R. Ferguson. (Abstract of paper read before Am. Soc. of Marine Draftsmen.) (103) Apr. 27.  
 Concrete Ships: Why They Should be Built. E. O. Williams. (118) May.  
 Ljungström Turbo-Electric Ship-Propelling Machinery.\* (11) Serial beginning May 3; (26) May 17.  
 Notes on the Operation of Submarine Diesel Engines. F. C. Sherman. (Abstract from *Journal of the Am. Soc. of Naval Engrs.*) (64) May 14.  
 Data as to the 5 000-Ton Concrete Ship, *Faith*, with Comment on its Costs. (86) May 22.  
 The History of Concrete Barge and Ship Construction. J. E. Freeman. (Abstract of paper read before Eng. Soc. of Buffalo.) (86) May 22.

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\* Illustrated.



**Marine—(Continued).**

- Tower Derricks Serve Twin Shipways at Submarine Boat Corporation Yard.\* (13) June 6.  
 Werkspoor Marine Diesel Engines.\* (11) Serial beginning June 7.  
 Federal Ships Erected by Derrick Travelers Built for Long Service.\* (13) June 13.  
 Design Steel Ship for Maximum Efficiency of Bridge-Shop Fabrication. (13) July 4.  
 Government Designs and Builds 3 500-Ton Concrete Ships.\* (13) July 4.  
 Construction Problems Many in Building Concrete Ships. (13) July 11.  
 Hog Island's Ship-Erection Equipment: Four Hundred Tower Derricks for Fifty Ways.\* (13) July 11.  
 Machines for Making Wooden Ships.\* (46) July 13.  
 Slag as an Aggregate for Concrete Ships.\* Curtis C. Myers. (20) July 18.  
 La Construction des Sous-Marins. (Paper read before the Soc. of Naval Archts. and Marine Engrs.) (33) Mar. 9.  
 Données et Prévisions allemandes sur les résultats de la guerre sous-marine.\* A. Goupil. (33) Mar. 23.  
 La Propulsion Electrique à Bord du Cuirassé Americain *Tennessee*.\* (33) Apr. 13.

**Mechanical.**

- An Aerial Tramway for the Saline Valley Salt Company, Inyo County, California. F. C. Carstarphen. (54) Vol. 81, 1917.  
 Notes on the Present Knowledge and Practice in Regard to the Briquetting of Iron Ores.\* Guy Barrett and T. B. Rogerson. (71) Vol. 96.  
 The Failure of Boiler Plates in Service, and Investigations of the Stresses that Occur in Riveted Joints.\* E. B. Wolff. (71) Vol. 96.  
 Deterioration of Refractory Materials.\* H. B. Cronshaw. (71<sup>a</sup>) Vol. 7.  
 The Failure of Short Tubular Struts of High-Tensile Steel (for Aeroplanes).\* William Charles Popplewell. (63) Vol. 203, 1917.  
 Taylor's Pulp Sampler.\* W. H. Trewartha-James. (74) Vol. 25.  
 A Comparison of the Working Costs of the Principal Prime Movers. Oswald Wans. (75) Oct., 1917.  
 Heat Engines.\* H. Riall Sankey. (Thomas Hawksley Lecture.) (75) Nov., 1917.  
 A New Principle in the Flow of Heat. Carl Hering. (3) Jan.  
 America's Air Service.\* W. F. Durand. (3) Jan.  
 The Design and Progress of the Floating-Frame Reduction Gear.\* John H. Macalpine. (58) Feb.  
 Sulphated Tunnel Cement.\* James Scott. (21) Mar.  
 A New British Oil Industry. E. H. Cunningham Craig and Others. (Abstract of paper read before Inst. of Petroleum Technologists.) (22) Mar. 1.  
 The Internal Combustion Engine. F. N. Everett. (Abstract of paper read before Assoc. of Eng. and Shipbuilding Draughtsmen.) (22) Mar. 1.  
 The Steam Turbine as Applied to Colliery Work.\* P. J. Plevin. (Paper read before Assoc. of Min Elec. Engrs.) (22) Mar. 1.  
 Styles Three-Charge System the Highest Development in Public Utility Rate Making. (Applies to Gas Industry.) J. M. Spitzglass. (Abstract of paper read before Illinois Gas Assoc.) (24) Mar. 23.  
 How One Company Sizes Its By-Product Coke for Domestic Consumers.\* Alan H. Harris, Jr. (Abstract of paper read before Illinois Gas Assoc.) (24) Mar. 30.  
 The Problem of Man-Power in Home Iron-Ore Supply Fields: Mechanical Appliances the Solution.\* W. Barnes. (22) Apr. 5.  
 Coke as Blast-Furnace Fuel. G. W. Hewson. (Abstract of paper read before Soc. of Chemical Industry.) (22) Apr. 5.  
 A Survey of the Power By-Product Problem.\* T. Roland Wollaston. (Abstract of paper read before Soc. of Engrs.) (22) Apr. 12; (57) Apr. 12.  
 An Extemporized Munition Factory.\* (12) Serial beginning Apr. 12.  
 Further Notes on American Methods of Handling and Storing Iron Ore and Coal. (73) Apr. 12.  
 Some Physical Properties of Acid Refractory Materials and Methods for Estimating Them.\* G. E. Foxwell. (22) Apr. 12.  
 The Electric Commercial Vehicle. (12) Apr. 12.  
 The Manufacture of Ball Bearings.\* (12) Serial beginning Apr. 12.  
 Steam Condensation. A. Arnold. (26) Apr. 12.  
 A 35-Ton Wagon Holst for Steel Works.\* (26) Apr. 19.  
 Optical Projection Apparatus for Testing Gauges.\* (12) Apr. 19.  
 Mapping and Recording Distribution and Transmission Systems of Gas Companies. G. E. Steller. (24) Apr. 20.  
 Transmission of Heat.\* J. Dougill. (Paper read before Yorkshire Junior Gas Assoc.) (66) Apr. 23.  
 Electro-Magnetic Clutch for Planing Machine.\* (12) Apr. 26.  
 Large Steam Turbines. (26) Apr. 26.  
 Pitch as a Fuel. (118) Apr. 26.

\* Illustrated.



**Mechanical—(Continued).**

- Properties of Silica. (118) Apr. 26.  
 Stresses in Turbine Blading. Gerald Stoney. (11) Apr. 26.  
 A By-Product Coke and Coking Operations.\* C. J. Ramsburg and F. W. Sperr, Jr. (45) Serial beginning Apr. 27.  
 Possible to Remove a Purifying Unit for Revivification without Interfering with Operation of Other Units in New System.\* Charles H. Clower. (24) Apr. 27.  
 Combustion of North Dakota Lignites with Suggestions for Design of Furnaces.\* Henry Kreislinger. (64) Apr. 30.  
 Determination of Moisture in Coke. A. C. Fieldner and W. A. Selvig. (Abstract of U. S. Bureau of Mines, *Technical Paper No. 148.*) (66) Apr. 30.  
 Latent Heat of Vaporization of Ammonia. Nathan S. Osborne and Milton F. Van Dusen. (*Scientific Paper No. 315*, Bureau of Standards, Washington, D. C.) (64) Apr. 30.  
 Electric Operation Permits Economical Gravel Plant Layout.\* E. Earl Glass. (67) May.  
 A High-Speed Air and Gas Washer.\* John L. Alden. (55) May.  
 A Self-Adjusting Spring Thrust Bearing.\* H. G. Reist. (55) May.  
 Continuous Acting Retorts: Problem of Horizontals. (118) May.  
 Efficiency of Gear Drives.\* C. M. Allen. (55) May.  
 Efficient Combustion of Bituminous Coal with Underfed Stokers.\* Russell C. Hine. (9) May.  
 How We Trained 5 000 Women.\* C. U. Carpenter. (9) May.  
 Investigation of the Uses of Steam in the Canning Factory.\* Julian C. Smallwood. (55) May.  
 New Montana Cement Plant in Operation.\* (67) May.  
 Stresses in Machines When Starting or Stopping.\* F. Hymans. (55) May.  
 The Elastic Indentation of Steel Balls under Pressure.\* C. A. Briggs and others. (55) May.  
 The Evolution of the Steel Ball Industry.\* (62) May.  
 The Farm Tractor.\* J. C. Hunter. (108) May.  
 The Machinery of Refrigeration.\* Charles L. Hubbard. (9) May.  
 Wood for Boiler Fuel. C. T. Baker. (9) May.  
 Arrangement of Gypsum Mills and Cost of Manufacture.\* (117) May 1.  
 Combustion of the Volatile Matter in Coal.\* S. H. Katz. (Abstract of *Technical Paper No. 183*, U. S. Bureau of Mines.) (83) May 1.  
 Long Distance Hauling by Motor Trucks. Perry E. Beam. (Abstract of paper read before Motor Truck Club of Philadelphia.) (86) May 1.  
 Merits of Combination Gases of Low Heat Value. W. D. Wilcox. (83) May 1.  
 Notes on the Recovery of Toluol from Gas.\* Frederick W. Sperr, Jr. (83) May 1.  
 Powdered Coal for Cement Mills and Power Plants.\* Frederick Seymour. (117) May 1.  
 Hollow Steel Axles and Safety First.\* Julian Pollak. (20) May 2.  
 Machining Gasoline-Engine Parts.\* M. E. Hoag. (72) May 2.  
 Operations in the Manufacture of High-Explosive Shells.\* (72) May 2.  
 Benzol Rectification. T. D. Hamer. (Paper read before Coke Oven Managers' Assoc.) (57) May 3; (66) May 28.  
 Cooling Houses with Cold Air Supply. Alexander Graham Bell. (Abstract of article in *National Geographic Magazine*.) (101) May 3.  
 Heating, Cooking and Laundry Equipment of the National Army Cantonments.\* A. C. Willard. (101) Serial beginning May 3.  
 Ljungström Turbo-Electric Ship-Propelling Machinery.\* (11) Serial beginning May 3.  
 Notes on a Gas-Coke-Producer-Fired Glass Tank Furnace for the Production of White Glass.\* A. B. Roxburgh. (Abstract of paper read before Soc. of Glass Tech. of Newcastle.) (11) May 3.  
 Stability of Aeroplanes. H. A. Webb. (11) May 3.  
 Designing Natural-Gas-Gathering Line System for Gasoline Plant. E. O. Hickstein. (24) May 4.  
 War Aviation.\* B. C. Hucks. (Abstract of paper read before Aeronautical Soc. of Great Britain.) (19) May 4.  
 Capitalization Value of Steam Leaks. R. von Fabrice. (64) May 7.  
 Central-Station Heating in Detroit.\* J. H. Walker. (64) May 7.  
 Stresses in Gasholders.\* Frank H. Robinson. (Paper read before North of England Gas Managers' Assoc.) (66) May 7.  
 Machining the Stitch-Making Mechanism for Hosiery Machines.\* Robert Mawson. (72) May 9.  
 Loading Door for Coke Ramps.\* H. Hermanns. (57) May 10.  
 By-Product Coke Oven Installation on Tees-Side.\* (12) May 10.  
 Circulating Furnace System for Lodge Hall.\* (101) May 10.  
 Heating Twin House with Vacuum System.\* (101) May 10.  
 An Intermittent Tar Dehydrating Plant.\* W. R. Wimburst. (Paper read before Eastern Counties Gas Mgrs. Assoc.) (66) May 14.

\* Illustrated.





**Mechanical—(Continued).**

- Notes on the Operation of Submarine Diesel Engines. F. C. Sherman. (Abstract from *Journal of the Am. Soc. of Naval Engrs.*) (64) May 14.
- Steaming Horizontal Retorts. R. J. Rew. (66) May 14.
- Washing in Filter Presses.\* D. R. Sperry. (105) May 15.
- Practical Cam Design.\* L. G. Johns. (72) May 15.
- Coal-Handling Plant at the Saltley Gas-Works.\* George Frederick Zimmer. (11) May 17.
- Measurement of Natural Gas in Large Quantities. W. M. Ackerman. (24) May 18.
- The Fool-Proof Precision Gage.\* (46) May 18.
- Some Notes on Turbine Bearings and Their Lubrication. Charles H. Bromley. (64) May 21.
- Supporting Effect of Boiler Heads. Neil M. Macdonald. (64) May 21.
- Hobs and Hobbing Machines. (Paper read before Am. Gear Mfrs.' Assoc.) (72) May 23.
- Lift Trucks Cut Transportation Costs.\* (20) May 23.
- American Methods of Unloading Coal from Car and Barge.\* (57) May 24.
- Getting Service Out of the Gym.\* (101) May 24.
- Steam Piping for Power Plant Auxiliaries.\* George H. Gibson. (101) May 24.
- The Safe Storage of Coal. W. D. Langtry and J. F. Kohout. (57) May 24.
- Composition of Refractory Silica Brick. J. S. McDowell. (16) May 25.
- Pulverized Coal for Industrial Purposes.\* John Cunliffe. (45) May 25.
- Figuring Furnace-Grate Area.\* (64) May 28.
- Inert Gases in Coal Gas. (66) May 28.
- Operation and Maintenance of Elevators—Arrangement of Cables.\* R. H. Whitehead. (64) May 28.
- Radojet Air Pump.\* (64) May 28.
- The Most Economical Production Lot.\* (Valuation of Tools, etc.) E. W. Taft. (20) May 30.
- Advantages of Steam Heating in Dwellings.\* C. A. Lorie. (101) May 31.
- Clinker Dams.\* C. M. Bennett. (26) May 31.
- Gas Firing Boilers. T. M. Hunter. (Abstract of paper read before South Wales Inst. of Engrs.) (57) May 31.
- Hydraulic Tester for Gas Storage Cylinders. (11) May 31.
- Laying Out Angular Work.\* Claude W. Hill. (11) May 31.
- The Deadburning of Magnesite and Dolomite.\* E. Steiger. (Abstract of paper read before Ceramic Soc.) (11) May 31.
- The 180-H. P. Mercedes Aero Engine.\* (Report issued by the Ministry of Munitions, Technical Dept.) (11) May 31.
- Labor-Saving Coal Handling for the Factory Power House.\* Reginald Trauttschold. (9) June.
- Oil Fuel in New England Power Plants.\* Henry W. Ballou. (55) June.
- Steam Pumping Engines. Alfred O. Doane. (28) June.
- The Installation of a New Steam Hammer.\* W. J. Russell. (62) June.
- Time Studies for Rate Setting on Machine Tools.\* Dwight V. Merrick. (9) June.
- Typical Mechanical Handling of Miscellaneous Articles.\* A. B. Proal, Jr. (9) June.
- Crushing Plant for Calcite Flux.\* C. A. Tupper. (117) June 1.
- A Simple Automatic Wind-Direction Recorder.\* James Robertson. (16) June 1.
- Gas as a Fuel has Alluring Advantages to the Maker of Asphalt Roofing Material and Shingles.\* C. H. Kalktedt. (24) June 1.
- Graphic Instruments Used by Pacific Portland Cement Co. T. S. Montgomery and W. B. Bray. (117) June 1.
- Successful Burning of Anthracite Slush. (45) June 1.
- Bye-Product Coke-Ovens as a Source of Gas Supply for Town's Use.\* Evan Rees. (Paper read before Inst. of Gas Engrs.) (66) June 4.
- Where Does the Heat Go? (64) June 4.
- Bullard "Maxi-Mill" Boring Mill.\* (72) June 6.
- A. E. G. Bombing Biplane.\* (12) June 7.
- Exhaust-Steam Turbine Installation at Coal Mines. E. T. Roberts. (45) Serial beginning June 8.
- Use Old Tubular Boiler for Light Oil Still at Des Moines Works. (24) June 8.
- Augustine Rotary Two-Cycle Super-Induction Gas Engine.\* (64) June 11.
- Operation and Maintenance of Elevators—Care and Lubrication.\* R. H. Whitehead. (64) June 11.
- Soot and Soot Blowers. (64) June 11.
- Charts for the Design of Helical Springs.\* M. M. Brayton. (72) June 13.
- Anthracite Silt as a Locomotive Fuel.\* (18) June 15.
- Flywheel Equalizing Generator is Economical for Ore Dock.\* (117) June 15.
- Keeping Power Plant Oil in Good Condition. Hartley Le H. Smith. (17) June 15.
- Gaging Screws. H. J. Bingham Powell. (72) June 20.
- How a Chain Factory was Built and Then Occupied.\* Charles Lundberg. (20) June 20.
- Making Accurate Squares for Gagemakers.\* John Teckeer. (72) June 20.

\* Illustrated.



**Mechanical—(Continued).**

- The Lubricating Problem.\* Raymond Francis Yates. (72) June 20.  
 Boiler Corrosion. Basel G. McLellan. (Paper read before Soc. of Chemical Industry.) (19) June 22.  
 The Use of Powdered Coal.\* W. G. Wilcox. (Paper read before Amer. Chemical Soc.) (103) June 22.  
 Steels for Gears and Their Treatment.\* Georg A. Richardson. (Abstract of paper read before Am. Drop Forge Assoc.) (20) June 27.  
 The Milling-Machine Vise as a Special Milling Fixture.\* Hugo F. Pusep. (72) June 27.  
 Raise Consumption of One Customer from 3 000 Cu. Ft. a Month to 10 500 000 Cu. Ft. in Little More than a Year.\* D. E. Widdersheim. (24) June 29.  
 By-Product Coke Oven Pressure Regulation.\* Charles H. Smoot. (116) July; (83) July 1.  
 Economic Handling of Ashes.\* Reginald Trautschold. (9) July.  
 How to Move Materials by Machinery.\* Henry J. Edsall. (9) July.  
 Substituting Powdered Coal for Other Fuels.\* C. F. Herington. (116) July.  
 The Economical Use of Fuel.\* (A Symposium Contributed to the Worcester Meeting.) (55) July.  
 Time Studies for Rate Setting on Gisholt Boring Mills.\* Dwight V. Merrick. (9) Serial beginning July.  
 Maximum Coal Economy as a World Problem. Ach. Delamarre. (83) July 1.  
 Putting in Operation a Vertical Retort Plant.\* George Bubb. (83) July 1.  
 Cold Accumulators and Their Application.\* Ernst S. H. Baars. (Paper read before Engrs. Soc. of Milwaukee.) (64) July 2.  
 Soot Blowers for Horizontal Water-Tube Boilers.\* (64) July 2.  
 Automatic Spacing and Punching Machine for Structural Work.\* S. A. Hand. (72) July 4.  
 The Inspection of Machine Tools.\* Ethan Viall. (72) July 4.  
 Applying Gas Burners to Existing Appliances Using Other Fuels.\* Gilbert C. Shadwell. (24) July 6.  
 Exhaust Valve Troubles (for Aero Engines). (Article from *Auto Motor Journal*.) (19) July 6.  
 Some Causes of Boiler-Tube Failures.\* R. Cederblom. (64) July 9.  
 The Semi-Diesel Oil Engine.\* L. H. Morrison. (64) July 9.  
 Reasons for Failures of Heating Systems.\* J. D. Hoffman. (Paper read before Am. Soc. of Heating and Ventilating Engrs.) (101) July 12.  
 No Appreciable Loss Results to Consumer Meter Registration Through Fallen Pressure, but Considerable Loss Indirectly Follows from Sluggish Flow of Gas.\* Charles V. Critchfield. (Paper read before Natural Gas Assoc. of America.) (24) July 13.  
 Recovery of By-Products in Coke Manufacture. M. Meredith. (45) July 13.  
 Underground Pipe Mains—Material, Depreciation, Sizes for Steam and Water.\* Charles L. Hubbard. (64) July 16.  
 Notes on Oxide Purification.\* H. Tindale. (Abstract of paper read before New South Wales and Queensland Gas Inst.) (66) June 18.  
 Uniform Screw Threads for All Countries. E. H. Ehrmann. (From the report to the S. A. E. on Conference held by Inter. Standards Committee in London.) (72) July 18.  
 Installation pour l'embarquement des minerais de fer à Bilboa (Espagne).\* (33) Mar. 30.  
 L'Emploi du Charbon Pulvérisé dans les Usines Sidérurgiques des Etats-Unis; Les Forges Dilworth, Porter and Co., à Pittsburgh et les Usines de l'American Iron and Steel Co., à Lebanon (Pennsylvanie, E.-U.)\* (33) Apr. 13.  
 Les Tracteurs Agricoles Anglais.\* P. Calfas. (33) Serial beginning Apr. 20.  
 Les Graisses Végétales Exotiques. Francis Marre. (33) Apr. 27.  
 Compteur Alcométrique Système Gibaudin.\* Lucien Fournier. (33) May 11.  
 Système de Flotteur Réduisant les Pertes par Evaporation des Liquides Volatils, Emmagasinsés dans des Réservoirs.\* A. Grebel. (33) May 11.  
 Nouvelles Applications du Froid Artificiel.\* A. Fichet. (33) June 1.  
 La Machine à Sténographe pour Aveugles du Lieutenant Muller.\* Lucien Fournier. (33) June 15.  
 Les Nouveaux Types d'Avions allemands et autrichiens.\* (33) June 15.  
 Der Torf und seine Verwendung als Brennstoff. K. Birchler. (107) Apr. 6.

**Metallurgical.**

- An Electro-Magnetic Method for Determining the Critical Point in the Heat Treatment of Steel.\* R. B. Fehr. (71) Vol. 95.  
 Cementation by Gas Under Pressure.\* F. C. Langenberg. (71) Vol. 95.  
 Notes on Some Quenching Experiments.\* Lawford H. Fry. (71) Vol. 95.  
 Properties of the Refractory Materials Used in the Iron and Steel Industry.\* Cosmos Johns. (71) Vol. 95.  
 The Case-Hardening of Iron by Boron.\* N. Tschischewsky. (71) Vol. 95.

\* Illustrated.



**Metallurgical—(Continued).**

- The Determination of the Line  $Se$  in the Iron-Carbon Diagram by Etching Sections at High Temperatures *In Vacuo*.\* N. Tschischewsky and N. Schulgin. (71) Vol. 95.
- The Influence of Surface Tension upon the Properties of Metals, Especially of Iron and Steel.\* F. C. Thompson. (71) Vol. 95.
- The Penetration of the Hardening Effect in Chromium and Copper Steels.\* L. Grenet. (71) Vol. 95.
- Steel Ingot Defects.\* J. N. Kilby. (71) Vol. 95.
- A Note on the Microstructure of Commercially Pure Iron between Ar. 3 and Ar. 2.\* W. J. Brooke and F. F. Hunting. (71) Vol. 96.
- Investigation upon a Cast of Acid Open-Hearth Steel.\* T. D. Morgans and F. Rogers. (71) Vol. 96; (116) May.
- New Experiments on Shock Tests and on the Determination of Resilience.\* Georges Charpy and André Cornu-Thenard. (71) Vol. 96.
- Notes on the Heat Treatment of Grey Cast Iron.\* J. E. Hurst. (71) Vol. 96.
- Report on Practice in the Manufacture of Malleable Cast Iron. E. Adamson and J. E. Fletcher. (71) Vol. 96.
- Report on the Present Position of the Malleable Castings Industry in this Country. W. H. Hatfield. (71) Vol. 96.
- The Acid Open-Hearth Process.\* F. Rogers. (71) Vol. 96.
- The Influence of Heat Treatment on the Electrical and Thermal Resistivity and Thermo-Electric-Potential of Some Steels.\* Edward D. Campbell and William C. Dowd. (71) Vol. 96.
- Apparatus for the Measurement of Electric Resistance of Material in the Solid State at High Temperatures, and Its Application to the Determination of the Critical Points of Iron and Steel.\* P. Saldau. (71<sup>a</sup>) Vol. 7.
- Gases Occluded in Alloy Steels.\* J. W. Donaldson. (71<sup>a</sup>) Vol. 7.
- Investigation of the Relative Merits of Various Agents for the Deoxidation of Steel.\* H. M. Boylston. (71<sup>a</sup>) Vol. 7.
- Iron-Carbon-Silicon Alloys.\* J. H. Andrew. (71<sup>a</sup>) Vol. 7.
- Preliminary Report on the Heat Balance of Steel Furnaces.\* R. S. G. Knight. (71<sup>a</sup>) Vol. 7.
- Preservation of Iron and Steel by Means of Passivifying Factors.\* Thomas G. Thompson. (71<sup>a</sup>) Vol. 7.
- The Heat Balance of a Blast-Furnace Stove.\* R. S. G. Knight. (71<sup>a</sup>) Vol. 7.
- The Oxygen Content of Iron and Steel.\* J. Allen Pickard. (71<sup>a</sup>) Vol. 7.
- The Eggertz Test for Combined Carbon in Steel.\* J. H. Whiteley. (71<sup>a</sup>) Vol. 8.
- Clay: Its Relation to Ore Dressing and Cyaniding Operations. A. W. Allen. (74) Vol. 25.
- Influence of Heat in Cyaniding Gold Ores. E. A. Wraight. (74) Vol. 25.
- Strength and Inner Structure of Mild Steel.\* W. E. Dalby. (90) Vol. 59.
- Stress Determination in a Flat Plate.\* J. Montgomerie. (90) Vol. 59.
- A Method for Distinguishing Sulphides from Oxides in the Metallography of Steel.\* George F. Comstock. (56) Vol. 56.
- Calculations with Reference to the Use of Carbon in Modern American Blast Furnaces. Henry Phelps Howland. (56) Vol. 56.
- Dry-Hot Versus Cold-Wet Blast-Furnace Gas Cleaning. Linn Bradley and others. (56) Vol. 56.
- Effect of Time in Reheating Hardened Steel Below the Critical Range. Carle R. Hayward and Others. (56) Vol. 56.
- Erosion of Guns—The Hardening of the Surface.\* Henry Fay. (56) Vol. 56.
- Grain Growth Phenomena in Metals.\* Zay Jeffries. (56) Vol. 56.
- Matte Granulation at Herculanum, Mo. S. Paul Lindau and Henry B. Smith. (56) Vol. 56.
- Notes on Flotation—1916.\* J. M. Callow. (56) Vol. 56.
- Notes on the Heat Treatment of High-Speed Steel Tools.\* A. E. Bellis and others. (56) Vol. 56.
- On Grain Growth. Henry M. Howe. (56) Vol. 56.
- Potash as a Byproduct from the Blast Furnace.\* R. J. Wysor. (56) Vol. 56.
- Recrystallization After Plastic Deformation. Henry M. Howe. (56) Vol. 56.
- Roll Scale as a Factor in the Bessemer Process. A. Patton and F. N. Speller. (56) Vol. 56.
- Some Suggestions Regarding Construction of Hot-Blast Stoves. Linn Bradley and others. (56) Vol. 56.
- Temperature Measurements in Bessemer and Open-Hearth Practice. George K. Burgess. (56) Vol. 56.
- The Effect of Sulphur on Low-Carbon Steel.\* Carle A. Hayward. (56) Vol. 56.
- The Function of Alumina in Slags. Carl Henrich. (56) Vol. 56.
- The Magnetic Concentration of Low-Grade Iron Ores.\* S. Norton and S. Le Ferre. (56) Vol. 56.
- The Manufacture of Weldless Steel Tires for Locomotive and Car Wheels. Guillaem Aertsen. (56) Vol. 56.

\* Illustrated.





**Metallurgical—(Continued).**

- The Seasoning of Castings. Richard Moldenke. (56) Vol. 56.  
 The System Tungsten-Molybdenum. Frank Alfred Fahrenwald. (56) Vol. 56.  
 The Significance of Manganese in American Steel Metallurgy. F. H. Willcox. (56) Vol. 56.  
 The Viscosity of Blast-Furnace Slag. Alexander L. Felld. (56) Vol. 56.  
 Tungsten-Molybdenum Equilibrium Diagram and System of Crystallization. Zay Jeffries. (56) Vol. 56.  
 Rolling Mills and their Electrical Equipment.\* G. M. Brown. (Abstract of paper read before Cleveland Inst. of Engrs.) (22) Mar. 1.  
 Machine Forging.\* D. M. Caird. (Abstract of paper read before Manchester Assoc. of Engrs.) (22) Mar. 29.  
 Coke as Blast-Furnace Fuel. G. W. Hewson. (Abstract of paper read before Soc. of Chemical Industry.) (22) Apr. 5.  
 Stobie 15-Ton Electric Furnace.\* (22) Apr. 12.  
 Heavy Friction Drop Stamp.\* (12) Apr. 19.  
 New Regenerative Coke Oven Plant at Thornaby Ironworks.\* Frederick C. Coleman. (57) Apr. 19.  
 On Grain Size. G. H. Gullever. (Paper read before Inst. of Metals.) (11) Apr. 19.  
 Thermit Welding.\* R. L. Browne. (65) Apr. 19.  
 A Foundry Cost and Accounting System.\* William W. Bird. (55) May.  
 Flotation of Semi-Oxidized Silver Ore.\* E. J. Atckison. (103) Apr. 27.  
 Electric Heating of Molds.\* Harold E. White. (55) May.  
 Electric Skip Hoists for Blast Furnaces.\* David L. Lindquist. (First part of paper read before Pittsburgh section A. I. S. E. E.) (116) May.  
 Elements of Roll Pans Design.\* W. Trinks. (116) May, July.  
 High Temperatures and Artificial Gas. E. Raven Rosen-Baum. (62) May.  
 Liquid Ferro-Manganese in Open Hearth. E. C. Hummel. (116) May.  
 Telautographs Expedite Steel Production.\* H. C. Snyder. (116) May.  
 The Evolution of the Steel Ball Industry.\* (62) May.  
 The Microscope to Detect Steel Impurities. John McConnell. (116) May.  
 Theory of Heat Conduction and Transfer. A. D. Williams. (116) May.  
 Transportation Problems in Forge Shops.\* A. W. Peterson. (62) May.  
 Some Experiments on the Extraction of Radium from American Pitchblende Ores by Chlorination. Ray Cable and Herman Schlundt. (105) May 1.  
 Hollow Steel Axles and Safety First.\* Julian Pollak. (20) May 2.  
 The Penetration of Carbon.\* Howard Ensaw. (72) May 2.  
 The Manufacture of Tin Plate for Roofing.\* E. C. Folkenning. (Abstract of paper read before Illinois Sheet Metal Contractors Assoc.) (101) May 3.  
 The Formation of Diamond.\* Charles A. Parsons. (Lecture delivered before Inst. of Metals.) (11) May 3; (12) May 3.  
 Classification of Furnace-Slags. Herbert Lang. (103) May 4.  
 Electric Furnaces for Heat Treatment.\* T. F. Bailly. (Abstract of paper read before Assoc. of Iron and Steel Elec. Eng.) (20) May 9.  
 Saginaw Malleable Iron Co.'s Plant.\* (20) May 9.  
 Concentration of Molybdenite Ores in Ontario. A. L. Parsons. (Abstract of Ontario Bureau of Mines Report.) (16) May 11.  
 Failure in Metals. F. Rawlinson. (19) May 11.  
 Annealing and Recrystallization of Cold-Rolled Aluminium Sheet.\* Robert J. Anderson. (105) May 15; (11) Apr. 12.  
 Milling in Cyanide Solution. A. W. Allen. (105) May 15.  
 Electric Furnace for Steel Castings. D. D. MacGuffie. (Abstract of paper read before British Foundrymen's Assoc.) (20) May 16.  
 Heat Treatment of Gear Blanks. C. R. Poole. (72) May 16; (62) June.  
 Welding Cast Iron with the Electric Arc.\* (15) May 17.  
 Dry Sizing as a Means of Preparing Feed for Concentration. George V. Bland. (16) May 18.  
 Effect of Addition Agents in Flotation.\* (16) May 18.  
 Magnetic Concentration of Iron Ores at Mineville, N. Y.\* Earl C. Henry. (16) May 18.  
 Smelting Methods at El Paso.\* Courtenay De Kalb. (103) Serial beginning May 18.  
 Lift Trucks Cut Transportation Costs.\* (20) May 23.  
 Rolling Mills and the Electric Drive. L. Rothera. (Abstract of paper read before Manchester Assoc. of Engrs.) (73) May 24.  
 The Standard Resistance and Temperature Coefficient of Pure Annealed Copper. H. Savage. (26) May 24.  
 New Method of Determining Copper. James Moir. (Abstract from C. M. M. Soc. of South Africa.) (103) May 25.  
 Electric Steel for Small Castings. R. F. Flinterman. (Abstract of paper read before Amer. Electrochemical Soc.) (20) May 30.  
 Phosphorus in Soft Open Hearth Steel.\* J. S. Unger. (116) Serial beginning June; (20) June 13.

\* Illustrated.



**Metallurgical—(Continued).**

- Selecting Suitable Refractory Material. J. W. Haulman. (116) June.  
 The Triplex Electric Steel Process.\* T. W. Robinson. (116) June; (20) June 6.  
 Molecular Forces and Flotation.\* Will H. Coghill. (103) June 1.  
 On the Molecular Physics of Ore Flotation.\* Will H. Coghill and C. O. Anderson.  
 (From *Journal of Phys. Chem.*) (105) June 1.  
 The Advent of Modern Mill Mechanism to Nitrate Leaching.\* Donald F. Irvin.  
 (16) June 1.  
 Artificial Pebbles for Tube-Milling.\* A. W. Allen. (16) June 8.  
 Effect of Load on the Refractorium of Fire Bricks, etc.\* J. W. Mellor and  
 W. Emery. (From Report of the Refractory Materials Research Committee,  
 Inst. of Gas Engrs.) (66) June 11.  
 Effect of Phosphorus on Soft Steels.\* J. S. Unger. (Abstract of paper read before  
 Am. Iron and Steel Inst.) (20) June 13.  
 Rocking Type Electric Brass Furnace.\* H. W. Gillett and A. E. Rhoads. (72)  
 June 13; (105) June 1.  
 Matte-Settlement and Slag-Disposal at Grand Forks.\* Walter B. Bishop. (103)  
 June 15.  
 Electric Furnace for Forging Steel. Wirt S. Scott. (Abstract of paper read before  
 Assoc. of Iron and Steel Elec. Engrs.) (20) June 27; (62) Serial beginning  
 June.  
 Steels for Gears and their Treatment.\* George A. Richardson. (Abstract of  
 paper read before Am. Drop Forge Assoc.) (20) June 27.  
 Specifications for Shells of Semi-Steel. (20) June 27.  
 New Fume-Treatment Plant at Anaconda.\* D. M. Brown. (103) June 29.  
 The Manufacture of Tin Plate. T. Lewis Bailey. (From *Journal of the Soc. of  
 Chemical Industry.*) (19) June 29.  
 Heat Treatment of Axles.\* Dwight D. Miller. (25) July.  
 Metallic Electrode Arc Welds.\* O. S. Eschholz. (25) July.  
 Principal Changes in Blast Furnace Lines.\* J. G. West. (Paper read before Amer.  
 Iron and Steel Inst.) (116) Serial beginning July.  
 Tests on Rotary Blowers and Exhausters.\* (116) July.  
 Youngstown Sheet and Tube Plate Mill.\* (116) July.  
 Belt Concentrators and Wet Concentration. Alex. McLaren. (16) July 6.  
 Middlings.\* (16) July 6.  
 Electric Steel and the Forging Industry.\* Arthur V. Farr. (Paper read before  
 Am. Drop Forge Assoc.) (20) July 11.  
 Open-Hearth Furnace Doors.\* W. H. Burr and H. A. Lewis. (Paper read before  
 Assoc. of Iron and Steel Elec. Engrs.) (20) July 11.  
 Uses of Zirconia as a Refractory.\* J. A. Audley. (Abstract of paper read before  
 Ceramic Soc.) (20) July 11.  
 Concentrating Carnotite Ore.\* K. L. Kithil and J. A. Jones. (Abstract from  
*Bulletin 103*, Mineral Tech., U. S. Bureau of Mines.) (103) July 13.  
 Data on Crushing and Cyaniding in a West African Mill.\* Paul T. Bruhl.\* (16)  
 July 13.  
 The Groch Flotation Machine.\* F. O. Groch and W. E. Simpson. (Abstract of  
 paper read before Canadian Min. Inst.) (103) July 13.  
 The Testing of Aluminum Sheets.\* Robert J. Anderson. (20) July 18.  
 La Récupération et l'Utilisation des Dechets de l'Industrie Siderurgique. Paul  
 Razous. (33) Serial beginning Apr. 6.  
 L'Emploi de la Pression Plastique du Plomb pour des Travaux de Chaudronnerie  
 et d'Emboutissage des Métaux.\* Lunet. (33) Apr. 6.  
 Travail du Laiton à Froid, Note sur l'Application de la Formule d'Ecouissage de  
 Gard à la Détermination des Dimensions de l'Outilage à Employer pour les  
 Etrages, Emboutissages et Etampages des Produits en Laiton.\* Henri Bertin.  
 (33) Apr. 6.  
 L'Emploi du Charbon Pulvérisé dans les Usines Siderurgiques des Etats-Unis.\*  
 (33) Apr. 13.  
 L'Action de l'Oxyde de Fer sur la Silice.\* (33) June 1.

**Military.**

- Erosion of Guns—The Hardening of the Surface.\* Henry Fay. (56) Vol. 56,  
 1917.  
 Entrenchments and Camouflage.\* (100) Sept., 1917.  
 German Methods of Trench Warfare.\* (100) Sept., 1917.  
 America's Air Service.\* W. F. Durand. (3) Jan.  
 Camp Devens the Cantonment at Ayer, Mass.\* (119) Jan.  
 Military Searchlights.\* Roger Haydock. (100) Mar.  
 Sapping Operations, Especially for Infantry: from a Lecture to Cadets at Saint  
 Maixant, France. A. Gay. (100) Mar.  
 An Extemporized Munition Factory.\* (12) Serial beginning Apr. 12.  
 Long-Range Artillery Calculation. George Greenhill. (11) Apr. 26; (19) June 8.  
 Battle Front Transportation.\* Roger Haydock. (100) May.

\* Illustrated.



**Military—(Continued).**

- Military Highways. Logan Waller Page. (3) May.  
 Suggestions on Trench Construction, etc. H. D. Trounce. (100) May.  
 Trench Organization.\* Rene Radiguet. (From "The Making of a Modern Army and Its Operations in the Field.") (100) May.  
 Operations in the Manufacture of High Explosive Shells.\* (72) May 2.  
 Heating, Cooking and Laundry Equipment of the National Army Cantonments.\* A. C. Willard. (101) Serial beginning May 3.  
 Stability of Aeroplanes. H. A. Webb. (11) May 3.  
 War Aviation.\* B. C. Hucks. (Abstract of paper read before Aeronautical Soc. of Great Britain.) (19) May 4.  
 Water-Supply at the Front in France.\* Robert K. Tomlin, Jr. (13) May 9.  
 Military Road Building Difficult Even in America. Frank W. Harris. (13) May 16.  
 Road Building at the Front. William G. MacKendrick. (96) May 16.  
 Types of Military Airplanes.\* V. E. Clark. (Read before Soc. of Automotive Engrs.) (19) May 25.  
 How Army Hospitals Are Being Protected Against Fire.\* (13) May 30.  
 The 180-H. P. Mercedes Aero Engine.\* (Report issued by Ministry of Munitions, Technical Dept.) (11) May 31.  
 A. E. G. Bombing Biplane.\* (12) June 7.  
 The Madsen Gun.\* (12) June 7.  
 The Light Railway Along the British Front at Close Range.\* Robert K. Tomlin, Jr. (13) June 20.  
 Specifications for Shells of Semi-Steel. (20) June 27.  
 Engineers Convert French Beet-Sugar Fields into Advance Depot.\* Robert K. Tomlin, Jr. (13) July 4.  
 Army Engineer School in France Standardizes Work in the Field.\* Robert K. Tomlin, Jr. (13) Serial beginning July 18.  
 Le Tir des Canons à Longue Portée Caractéristiques d'une Bouche à Feu Pouvant Tirer à 110 Kilomètres.\* (33) Apr. 6.  
 Le Bombardement de Paris par Canons à Longue Portée. Nicolas Flamel. (33) Apr. 20.

**Mining.**

- Antimony Production in Hunan Province, South China.\* A. S. Wheler. (74) Vol. 25.  
 Chinese Mining Legislation. William F. Collins. (74) Vol. 25.  
 The Conglomerates of the Witwatersrand. E. T. Mellor. (74) Vol. 25.  
 Wolframite Mining in the Tavoy District, Lower Burma. E. Maxwell-Lefroy. (74) Vol. 25.  
 Modern Methods of Mining and Ventilating Thick Pitching Beds.\* H. M. Crankshaw. (56) Vol. 56, 1917.  
 Problems Connected with the Recovery of Petroleum from Unconsolidated Sands. William H. Kobbé. (56) Vol. 56, 1917.  
 The Illuminating Power of Safety Lamps.\* W. M. Weigel. (56) Vol. 56, 1917.  
 The Steam Turbine as Applied to Colliery Work.\* P. J. Plevin. (Paper read before Assoc. of Min. Elec. Engrs.) (22) Mar. 1.  
 The Taxation, Rating, and Valuation of Mines. David Bowen. (Abstract of paper read before Surveyors' Inst.) (22) Mar. 1.  
 The Development of an Efficient Earthing System.\* J. P. Forster. (Paper read before Assoc. of Min. Elec. Engrs.) (22) Mar. 29.  
 Coal-Washing: A Scientific Study.\* Thomas James Drakeley. (106) Apr.  
 On the Splitting of Coal-Seams by Partings of Dirt.\* Percy Fry Kendall. (106) Serial beginning Apr.  
 Electrical Interconnection of the Aberdare and Rhymney Valley Collieries of the Powell Duffryn Steam Coal Company, Limited.\* (22) Apr. 5.  
 The Possibilities of Gas Ignition by Miners' Electric Lamps.\* L. Fokes. (22) Apr. 5.  
 The Problem of Man-Power in Home Iron-Ore Supply Fields: Mechanical Appliances the Solution.\* W. Barnes. (22) Apr. 5.  
 Mud Injection in Coal Mines.\* M. A. Plassard. (Abstract of article in *Bulletin et Comptes Rendus Mensuels de la Société de l'Industrie Minérale*.) (11) Apr. 12.  
 Notes on the Extending of Colliery Three-Phase Electrical Power Plant. L. Fokes. (11) Apr. 12.  
 Electrical Pumping Installation at a Durham Colliery.\* Frederick C. Coleman. (57) Apr. 26.  
 Testing Miners' Lamps.\* (11) Apr. 26.  
 Coal Company Organization: Co-ordination of Departments, Elimination of Red Tape and Efficient Systems Secure Action and Results. W. W. Beddow. (45) Apr. 27.  
 Economy in Power for the Mine. C. M. Garland. (45) Apr. 27.  
 Mine Trackage for Motor Haulage. Dever C. Ashmead. (45) Apr. 27.  
 Some Useful Instruments for Colliery Power Plants.\* H. W. Ravenshaw. (106) May.

\* Illustrated.





**Mining—(Continued).**

- Development of Community Interest. Charles F. Willis. (16) May 4.  
 Handling Material and Supplies at Coal Mines.\* R. M. Magraw. (45) May 4.  
 Possible Sources of Barium Carbonate.\* Samuel H. Dolbear. (103) May 4.  
 The Aroroy Gold-Mining District. E. H. Clausen. (103) May 4.  
 The Petroleum Industry in Kansas.\* W. A. Whitaker and others. (16) May 4.  
 The Storage of Bituminous Coal.\* H. H. Stock. (18) May 4.  
 Requirements, Operation and Maintenance of Colliery Power Station Switchboards.\* L. Fokes. (57) May 10.  
 Cost Accounting at Coal Mines. J. B. Dilworth. (45) May 11.  
 Drift-Gravel Mining in Eastern Siberia.\* John Power Hutchins. (16) May 11.  
 The Gold Industry and Gold Standard.\* Hennen Jennings. (16) May 11; (103) May 11.  
 New American Breakers.\* (57) May 17.  
 Concrete in Coal Mine Service.\* J. F. Springer. (45) May 18.  
 Determination of Sulphur in Coal. Edwin M. Chance. (45) May 18.  
 Formulas for Mine-Valuation. W. W. Whitton. (103) May 18.  
 New Methods of Handling Coal Electrically.\* C. L. Packard. (45) May 18.  
 Gravity Track System at Anthracite Coal Breakers. F. N. Rupprecht. (13) May 23.  
 Steel Cantilevers Hold Headframe Over Mine Shaft.\* (13) May 23.  
 Graphic Determination of Prices. J. D. Skinner. (45) May 25.  
 New Steel Washery of the Locustdale Coal Company.\* Wilbur L. Cross. (45) May 25.  
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 The Estimation of Methane in Surface Strata.\* C. D. Mottram. (57) May 31.  
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\* Illustrated.



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- The United Railways. C. E. Smith. (115) Mar.
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- How to Prevent Freight Car Demurrage.\* Dwight T. Farnham. (9) May.
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- Some Present Day Maintenance Problems.\* F. B. Tapley. (87) May.
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- The Maximum Regulating Resistance and Maximum Shunt Resistance of Track Circuits.\* W. J. Thorrold. (Paper read before Inst. of Ry. Signal Engrs.) (21) May.
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**Railroads—(Continued).**

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 Buffalo Division Engine Terminals, Lehigh Valley R. R.\* (18) June 22.  
 New Shops and Engine Terminals, Buffalo, Rochester & Pittsburgh Ry.\* (18) June 22.  
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 Heat Treatment of Axles.\* Dwight D. Miller. (25) July.  
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- Military Highways. Logan Waller Page. (3) May.
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- Road Along Rock and Shale Bluff Requires Walls and Viaduct.\* (13) June 13.
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\* Illustrated.



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\* Illustrated.





**Structural—(Continued).**

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 Irving H. Cowdrey. (55) May.  
 The Concrete House.\* Milton Dana Morrill. (67) May.  
 Community Homes.\* (117) May 1.  
 Concrete Chimneys.\* H. W. Young. (117) May 1.  
 Construction of 2 000 000 Bushel Grain Storage.\* (117) May 1.  
 Flat Slab Construction for Warehouses.\* (117) May 1.  
 Model Building of *Detroit News*.\* (117) May 1.  
 Safety Standards for Scaffolding.\* (117) May 1.  
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 The Manufacture of Tin Plate for Roofing.\* E. C. Folkening. (Abstract of paper  
 read before Illinois Sheet Metal Contractors Assoc.) (101) May 3.  
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 May 11.  
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 Concrete and Cement Stucco Construction for Industrial Houses.\* (86) May 22.  
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 Structures. (86) May 22.  
 Large Outdoor Swimming Pool Built in Circular Form.\* C. E. Bliss. (13)  
 May 23.  
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 Comfort Stations at Niagara Falls.\* (101) May 31.  
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 What is a Good Concrete Floor? Leonard C. Wason. (9) June.  
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 June 1.  
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 June 6.  
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\* Illustrated.





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